NOTE

This Microfiche meets the quality requirements of the American National Standard for Microfiche of Documents (ANSI PH5.9-1975). However, because of imperfections in the document from which it was made, it contains images that are illegible or difficult to read. The source document for this microfiche is the best copy that could be obtained prior to filming.

CIS Congressional Information Service, Washington, D.C.

S. HRG. 100-786 PT. 2

DEPARTMENT OF DEFENSE APPROPRIATIONS FOR FISCAL YEAR 1989

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS UNITED STATES SENATE

ONE HUNDREDTH CONGRESS

SECOND SESSION

ON

H.R. 4781

AN ACT MAKING APPROPRIATIONS FOR THE DEPARTMENT OF DEFENSE FOR THE FISCAL YEAR ENDING SEPTEMBER 30, 1988, AND FOR OTHER PURPOSES

PART 2 (Pages 1-351)

FORCE STRUCTURE
OVERVIEW OF AIR FORCE BUDGET
PRODUCTION RATES
STRATEGIC DEFENSE INITIATIVE

U.S. GOVERNMENT PRINTING OFFICE
85-265 WASHINGTON : 1988

S181-3

For sale by the Superintendent of Documents, Congressional Sales Office
U.S. Government Printing Office, Washington, DC 20402

COMMITTEE ON APPROPRIATIONS

JOHN C. STENNIS, Mississippi, *Chairman*

ROBERT C. BYRD, West Virginia
WILLIAM PROXMIRE, Wisconsin
DANIEL K. INOUYE, Hawaii
ERNEST F. HOLLINGS, South Carolina
LAWTON CHILES, Florida
J. BENNETT JOHNSTON, Louisiana
QUENTIN N. BURDICK, North Dakota
PATRICK J. LEAHY, Vermont
JIM SASSER, Tennessee
DENNIS DECONCINI, Arizona
DALE BUMPERS, Arkansas
FRANK R. LAUTENBERG, New Jersey
TOM HARKIN, Iowa
BARBARA A. MIKULSKI, Maryland
HARRY REID, Nevada

MARK O. HATFIELD, Oregon
TED STEVENS, Alaska
LOWELL P. WEICKER, JR., Connecticut
JAMES A. MCCLURE, Idaho
JAKE GARN, Utah
THAD COCHRAN, Mississippi
ROBERT W. KASTEN, JR., Wisconsin
ALFONSE M. D'AMATO, New York
WARREN RUDMAN, New Hampshire
ARLEN SPECTER, Pennsylvania
PETE V. DOMENICI, New Mexico
CHARLES E. GRASSLEY, Iowa
DON NICKLES, Oklahoma

Francis J. Sullivan, *Staff Director*
Mary A. Shields, *Chief Clerk*
J. Keith Kennedy, *Minority Staff Director*

Subcommittee on Defense

JOHN C. STENNIS, Mississippi, *Chairman*

WILLIAM PROXMIRE, Wisconsin
DANIEL K. INOUYE, Hawaii
ERNEST F. HOLLINGS, South Carolina
LAWTON CHILES, Florida
J. BENNETT JOHNSTON, Louisiana
ROBERT C. BYRD, West Virginia
PATRICK J. LEAHY, Vermont
JIM SASSER, Tennessee
DENNIS DECONCINI, Arizona

TED STEVENS, Alaska
LOWELL P. WEICKER, JR., Connecticut
JAKE GARN, Utah
JAMES A. McCLURE, Idaho
ROBERT W. KASTEN, JR., Wisconsin
ALFONSE M. D'AMATO, New York
WARREN RUDMAN, New Hampshire
THAD COCHRAN, Mississippi
MARK O. HATFIELD, Oregon
(Ex Officio)

Staff

Francis J. Sullivan, Edward A. Swoboda, Charles J. Houy, Scott B. Gudes, Steven J. Cortese, Jay Kimmitt, Peter D. Lennon, and Jane McMullan

Administrative Support

Mary C. Marshall
Karen M. Cook

Minority Staff

Sean O'Keefe
Penelope S. German

CONTENTS

TUESDAY, MARCH 29, 1988

Page

Force Structure:
- Deputy Secretary of Defense---------------------------------- 1
- Force Development and Integration---------------------------- 26
- U.S. Marine Corps-- 56
- U.S. Navy-- 63
- U.S. Air Force--- 74

WEDNESDAY, MARCH 30, 1988

Overview of Air Force Budget Request:
- Secretary of the Air Force----------------------------------- 125
- Chief of Staff, Air Force------------------------------------ 141

THURSDAY, MARCH 31, 1988

Strategic Defense Initiative:
- Director, SDIO--- 243

TUESDAY, APRIL 19, 1988

Production Rates:
- Under Secretary of Defense for Acquisition------------------- 313

Date	Subject	Witnesses	Volume
March 3	FY 1989 DOD Budget	Hon. William Howard Taft IV Deputy Secretary of Defense	1
March 22	Navy/Marine Overview	H. Lawrence Garrett, III Under Secretary of the Navy	1
		Admiral C.A.H. Trost Chief of Naval Operations	
		Gen. A.M. Gray, Cmdt. U.S. Marine Corps	
March 23	Army Overview	Hon. John O. Marsh Secretary of the Army	1
		Gen. Carl E. Vuono Chief of Staff, Army	
		Maj. Gen. James F. McCall Director, Army Budget Office	
March 24	Nat'l Guard & Reserve Overview	Hon. Stephen M. Duncan Asst. Secy. of Defense for Reserve Affairs	1
		Lt. Gen. Herbert R. Temple, Jr Chief, National Guard Bureau	
		Maj. Gen. William F. Ward Director, Army Reserve	
		Maj. Gen. Donald Burdick Director, Army National Guard	
		Maj. Gen. John B. Conaway Director, Air National Guard	
		Maj Gen. J.W. Moore, USMC Deputy Chief of Staff for Reserve Affairs	
		Maj. Gen. Roger P. Scheer Chief, Air Force Reserve	
		RAdml. F.N. Smith, USNR Director, Naval Reserve	

Date	Subject	Witnesses	Volume
March 29	Force Structure	Hon. William H. Taft IV Deputy Secretary of Defense	2
		Maj. Gen. Wilson Shoffner Asst. Deputy Chief of Staff for Operations & Plans, Force Development & Integration	
		VAdml. Henry Mustin Deputy Chief of Naval Operations for Plans, Policy & Operation	
		Maj. Gen. Carl Mundy, Jr. Deputy Chief of Staff for Plans, Policies & Operations	
		Maj. Gen. Michael G. Dugan Deputy Chief of Staff for Plans & Operations	
March 30	Air Force Overview	Hon. Edward C. Aldridge, Jr Secretary of the Air Force	2
		Gen. Larry D. Welch Chief of Staff, U.S. Air Force	
March 31	SDI	Lt. Gen. James Abrahamson, USAF Director, SDI Organization	2
April 14 (Closed)	Selected Special Access Programs		Not Printed
April 19	Production Rates	Dr. Robert B. Costello Under Secretary of Defense for Acquisition	2
April 21	Outside Witnesses	Dr. Walter Beam Institute of Electrical & Electronics Engineers	3
		Capt. Charles A. Buesner Naval Reserve Association	
		Maj. Gen. Even L. Hultman Reserve Officers Association	
		Lt. Gen. LaVern Weber National Guard Association	
		Mr. Josh Slavitt U.S. Defense Committee	

Date	Subject	Witnesses	Volume
April 21 (Cont'd)	Outside Witnesses	Messrs. Samuel Walsh & James Hubbard American Legion	3
		Dr. James Egan, MD American Psychiatric Association	
		Ms. Syndey Hickey National Military Family Association	
		Mr. William Burmeister Committee of American Ammunition Manufacturers	
		Mr. Kenneth T. Blaylock American Federation of Government Employees	
		Mr. C.A. "Mack" McKinney Non-Commissioned Officers Association	
		Dr. Norris Krone American Institute of Aeronautics & Astronautics	
		Mr. James M. Pierce National Federation of Federal Employees	
		Mr. John T. Hunter Association of Civilian Technicians	
May 10	Defense Budget Wrap-Up	Hon. Frank C. Carlucci Secretary of Defense	3
		Gen Robert T. Herres USAF, Vice Chairman Joint Chiefs of Staff	
May 17	SDI	Dr. Harold Brown Chairman, Johns Hopkins Foreign Policy Institute	3

Date	Subject	Witnesses	Volume
May 26	Pacific Rim Nations	Hon. Richard Armitage Asst. Secy. of Defense for International Security Affairs Gen. Louis Menetry Commander, U.S. Forces, Korea Dr Gaston Sigur Asst. Secy. of State for East Asia	3

DEPARTMENT OF DEFENSE APPROPRIATIONS FOR FISCAL YEAR 1989

TUESDAY, MARCH 29, 1988

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10:04 a.m., in room SD-192, Dirksen Senate Office Building, Hon. J. Bennett Johnston presiding.

Present: Senators Johnston, Sasser, Stevens, D'Amato, and Rudman.

DEPARTMENT OF DEFENSE

DEPUTY SECRETARY OF DEFENSE

STATEMENT OF HON. WILLIAM H. TAFT IV, DEPUTY SECRETARY OF DEFENSE, DEPARTMENT OF DEFENSE

FORCE STRUCTURE

OPENING REMARKS OF SENATOR JOHNSTON

Senator JOHNSTON. Ladies and gentlemen and members of the subcommittee, the Defense Appropriations Subcommittee will now come to order.

Today we will hear from the Deputy Secretary of Defense, William H. Taft IV, and four Deputy Chiefs of Staff for Operations, Army Maj. Gen. Wilson Shoffner, Navy Vice Adm. Henry Mustin, Marine Corps Lt. Gen. Carl Mundy, and Air Force Lt. Gen. Michael Dugan.

Our subject today is force structure; that is, the number, type, and capability of the military forces that the United States has at its disposal. Force structure is the number of ships, combat battalions, Marine amphibious forces, and wings that we support. Along with modernization, sustainability, and readiness, it is one of the four pillars of measuring defense capability.

Tough budget decisions were required to bring the original 1989 Defense budget in line with the funding levels agreed to in the budget summit agreement. Secretary Carlucci proposed force structure reductions so that a smaller force remains well-maintained, manned, and ready. In total, these force structure and manning changes account for $2.5 billion in savings in fiscal year 1989, and $11.7 billion in 1990 and beyond.

FORCE STRUCTURE CHANGES

Among the significant force structure changes proposed are deactivation of an Army brigade and cancellation of plans to activate two light battalions; decommissioning of 16 Navy frigates and eliminating a Navy air wing; deactivation of 2 Air Force wings and a wing equivalent from the Air Force National Guard and Reserve. Guard and Reserve paid drill and full-time support were reduced by 40,648 end strength.

Secretary Taft, these force structure changes are of significant concern to this subcommittee. They came up during the three hearings held last week. During today's hearings we want to examine the specific force structure changes that are proposed and to understand better the process that led to their selection.

Secretary Taft, we appreciate your coming to testify today. We will hear from you first. Then we will bring the four military commanders to the table and briefly discuss their perspectives on these force structure changes.

Welcome to the committee.

STATEMENT OF HON. WILLIAM H. TAFT IV

FORCE STRUCTURE CHANGES

Mr. TAFT. Mr. Chairman, thank you very much. It is a pleasure for me to appear before the subcommittee. I have a prepared statement which I believe has been submitted to the committee, and I would like to, if I may, submit that for the record.

Senator JOHNSTON. Yes; without objection.

Mr. TAFT. And just quickly summarize and respond to the precise points that you have raised.

As you have noted, our budget does propose changes in force structure from our previous programs. It proposes reductions in the force structure of the Army and the Air Force and a modest reduction in the Marines. It maintains the Navy force structure but forgoes a planned expansion in it.

PROPOSALS ON FORCE STRUCTURE CHANGES

The question that we want to explore a bit this morning is how we arrived at these proposals. As you have noted, Mr. Chairman, the force structure—what we mean by force structure is the size and number of our forces. This, of course, is an important aspect of our overall military capability, but it is only a part of it, and we must be concerned also, and are concerned, about the readiness of our forces, how highly trained they are, their sustainability, and their modernity.

FOUR PILLARS OF MILITARY CAPABILITY

With force structure, these three other characteristics—readiness, sustainability, and modernity—are what we refer to as the four pillars of our military capability.

I think in order just to understand how we approached the 1989 fiscal year problem that we had, it is good to view it in the perspective of the previous 8 years and what our priorities have been as amongst these four pillars.

Overall, I would say that it became clear to me that, instead of having a fiscal year 1989 budget level of about $330 billion as we proposed in the original budget, it would be below $320 billion or below $315 billion, in other words, that a cut would have to be taken on the order of $10 billion to $15 billion or more, that this would not be able to be done in the Department as a whole if we were to preserve all the size of the forces that we had programmed and tried to take it out of readiness, sustainability, and modernization. One could argue about what that level might be, where you should forgo force structure, but as I say, it seemed to me that about at the level of $320 billion, $315 billion, that type of a reduction in the budget, that we were faced with, that we would have to make some adjustments in force structure if we were to be ready, sustainable, and modern in adequate measure.

As it happened, the total number for the budget came in a little below $300 billion, so I think anybody would agree that some consideration of the force structure that we had was required, and some modification of our plans. It simply was not going to do to preserve the size of the troops if they were not supported adequately or made modern.

APPROACHES USED IN ARMY

If we look at the different services and the approaches that we have taken over the last 8 years, I think you will see how we approached the 1989 problem. In the Army in 1980 the main problem that we found was not so much in the force structure end as in what was inside the force structure. We had, as the Chief of Staff of the Army said, a hollow army. Our main problems there were lack of readiness and a lack of modernization and a lack of sustainability.

We went to work on that, and over the last 7 or 8 years we have improved the Army with only very modest increases in force structure but a great emphasis on readiness and on sustainability and on modernization. That is where our money has gone principally over these years. The size of the Active Army, in fact, has hardly grown at all in that period.

Where we have had force structure growth in the Army, it has been more in increasing the tooth-to-tail ratio, the introduction of the light infantry divisions, for example, or in building up the Reserves which have increased enormously over that period. We have actually almost doubled the size of the Guard and Reserve for the Army. That is where the growth has been. The Active Force, as I say, is about where it was, and the emphasis in the Army being to improve our readiness and sustainability, and to modernize.

In the 1989 budget, I think that we have preserved this approach in the Army. I would say that the original amended budget submission that we got from the Army this year, when we were preparing the budget, did not reduce force structure. It maintained it at the level. It was obvious to those of us reviewing that, and it emerged out of our discussions with the Secretary of the Army and the Chief of Staff, that the price to readiness, to sustainability, and to modernization of preserving force structure was far too high.

The original Army budget submission, for instance, while it did preserve force structure, did not provide for modernization of our aviation capabilities, did not provide for readiness, for training at adequate levels, and did not provide for Army ammunition stocks to be provided even at the same level as the previous year.

After discussions with the Army and consideration of these implications, we decided together that it would be better to have a modest reduction in the Active Army, though not in the Reserve, which is about maintained at the level that it is in 1988, in order to be able to fund the better training that we wanted, the 850 tank-miles, for instance, the flying hours for the aviation people, the modernization of aviation and the purchases of the M–1 and the Bradley Fighting Vehicle that we need, and also some of the sustainability accounts.

We were able to do that in the final Army budget with the reductions in force structure that we had. The original Army budget submission, which funded the full force structure in the active that we had, was not able to do it. That is the difference. That was the tradeoff that we made.

NAVY APPROACHES

In the Navy, the problem in 1980 was a little different from in the Army. Our main problem in the Navy we thought in 1980 was that it was simply too small, that we did not have a large enough force to do the missions that we needed to do. The Navy at that period was, in comparison with the other services, a little bit better off in terms of its sustainability, although that, too, needed to be fixed, and also modernization. This, of course, is what happens if you go small,

But the main problem was that it was too small. That was not the main problem in the Army. So we went about in the last 7 or 8 years fixing principally that problem, and we have invested very largely in an increase in force structure in the Navy. That is an increase in all aspects of our capability—surface ships, submarines, and aircraft carrier groups.

We have, I think, made enormous progress in that area. We have gone from 479 ships in 1980 to 580 today, an increase of 100 ships, and that is only half the story, or even less than half when you consider the enormous increase in capability of the ships that we have introduced over the ones that we had in 1980.

We had plans to continue this growth into 1989, 1990, but the question before us was whether we could indeed do that with the new budget constraints that were imposed on us, and we decided that we were not going to be able to continue that expansion in this year.

The original Navy budget submission, to get into the inside of our decisionmaking, did make some force structure reductions. It dropped the 14th Air Wing, as you have mentioned, Mr. Chairman. It dropped a Poseidon from the force structure. But it preserved the rest, at least nominally so.

The remaining force structure that was in the Navy was preserved, however, in the original Navy submission, at the cost of one Trident submarine, the only one we would have planned and did ultimately plan to buy this year; at the cost of undermanning the remaining ships, all of the ships that we had, from what was desirable; and by proposing a restructuring of the manning—and I must say, the proposal was a little fuzzy—for the 16 frigates in the 1040 class. The crews were going to be on and off and only available maybe half the time. Putting the ships in the Reserve was one of the other things that we considered for these 16 frigates.

Essentially, we felt that this meant hollowing out the force. We did not find the manpower available to man the remaining ships in adequate numbers, and we wanted to buy a Trident submarine.

So in discussions with the Navy, we examined various ways in which we would be able to preserve the readiness and keep the force manned, and we decided that instead of putting these 16 frigates into the Reserve, as was proposed, we chose that course because of their relatively old condition, the expense of maintaining them, and some of the peculiarities of their powerplants which would have made maintenance difficult in the Reserves and probably would have required active people to be made available to man them. We would put those ships into retirement completely.

In doing that, we did not, however, take any of the people that would have been associated with manning them. I left those in the Navy, about 4,400 people. The CNO has told me and Undersecretary Garrett who did so much work on the budget, they needed every single one of those people left to man the 580 ships that they have.

But I think I would be wrong if I left the impression that force structure was not a higher priority in the Navy than in the other services. We have preserved it there. We thought that was what was wrong mostly with the Navy in 1980 in comparison with the other services, and I think preserving it shows again in 1989 that we continue to maintain that approach.

AIR FORCE LACK OF MODERN EQUIPMENT

Finally, in 1980, my impression of the shortcomings of the Air Force and what we needed to build on was that they really were pretty much more in balance than either of the other services. If you could say that the Army's main problem was hollowness, not force structure, and the Navy's main problem was force structure, not hollowness, the Air Force's main problem, I think, was pretty much a lack of modern equipment. It was a little bit too small and was not as ready as we wanted it to be, but I think probably if you had to single out one thing, it was its modernity. It needed to be modernized with F-15's and F-16's which were ready to be bought but which we had not afforded on sufficient quantity.

In remedying that situation over the last 7 or 8 years, I think we have essentially attacked in a balanced way all of those problems. We have increased force structure somewhat. We have improved our readiness posture, improved our flying hours and training and spares accounts in the Air Force, and we have very much emphasized modernization both of weapons and platforms.

In 1989 we had a choice as to whether we wanted to maintain the larger force we had built and forgo some of the modernization, some of the training, or whether we would stay modern and go smaller than we were. The Air Force budget submission went in the direction, very clearly, of reducing force structure in order to maintain training and readiness. In fact, the flying hours that the Air Force has in mind for the future years are the same as they are today, but they are funded by being smaller, by having fewer planes in the active force than in the previous year.

So we got essentially from the Air Force a budget that seemed to us to reflect the right balance and priorities, and pretty much that is the budget that you see submitted in the President's budget before you for that service.

Mr. Chairman, that is the background of how we arrived at our proposals. As you pointed out, the savings from these force structure reductions directly in 1989 are not large. They are $2½ billion out of that $30 billion plus that we took. They do mount up, and over the 5 years they are $11 billion to $12 billion in savings, and they are very important.

But I would point out also that they are important in yet a bigger sense, and a sense that we ought to be aware of, and that is that if you forgo readiness in order to maintain the force structure, if you forgo modernization, you do not really have what you need in sufficient quantity and sufficient quality. You discourage the people that we maintain, that we have on our rolls who tend to leave us if we do not pay them enough, if we do not prepare them adequately to do the job that they have come into the service to do, and we do not support them.

It is that type of cost that not being ready exacts, and I think there is no real way to quantify it. But that is, perhaps, the principal reason why we made the choices that we did. Our force is not as large as we would like it to be in any of the services; we would like to have had the force structure that we had programmed originally in 1989. But given the choice between maintaining that force structure and hollowing it out or not being as modern as the forces that we must be prepared to meet and deter, we do not have any hesitation in adopting the course that we did and being sure that the forces that we do have, though fewer in number than we would like, are ready to do the job and know that we are supporting them fully, training them fully to do the jobs that they have come in to do.

Thank you, Mr. Chairman. It is a pleasure to be able to give this testimony, and I will be delighted to take any questions that you or the members of the subcommittee have.

[The prepared statementof Mr. Taft follows:]

PREPARED STATEMENT OF HON. WILLIAM H. TAFT IV

DEPUTY SECRETARY OF DEFENSE

Thank you for inviting me here this morning to discuss force structure with you. Most of my testimony will come in the form of answers to your questions, but before turning to them, let me briefly define "force structure" and then describe:

- Where force structure fits within overall DoD priorities;
- How these priorities were followed in the Department's recent reduction of the FY 1989 President's Budget to fit within the budget summit limits; and
- The more important trends in our force structure, and associated military capabilities, over this Administration's tenure to date.

As to definition, the term "force structure" refers to the size and mix of our military forces--the numbers and types of military units that we operate, such as ground force battalions and divisions, aircraft squadrons, and naval ships.

Within overall DoD priorities, up to a point, force structure must have first priority. But above a certain minimal level, force expansion becomes less important in comparison with other uses of scarce resources. In putting together our FY 1989 budget proposals, taking into account where we are, the Administration generally gave priority to readiness, sustainability, and modernization in preference to maintaining force structure in the active Army and Air Force or continuing to expand it in the Navy. Specifically, Secretary Carlucci directed that marginal force structure elements be cut or expansions deferred in order to ensure that the forces we have were ready, properly sustained, and adequately modernized.

We believe that our FY 1989 budget adjustments were thoroughly consistent with these priorities. We attempted to ensure the continued high quality of our military personnel--which is absolutely essential to readiness--by budgeting the full 4.3% military pay raise in the original FY 1989 President's Budget. We also held training readiness and operating tempo at FY 1989 PB levels. And we provided for real growth over the FY 1988 appropriation levels for munitions and spare parts, which contribute heavily both to readiness and to wartime sustainability. This major degree of protection to readiness and sustainability was made possible by our force structure cuts--early retirement of obsolescent Army helicopters and Navy ships, for example--and on personnel strength reductions in all categories.

I would now like to highlight selected force structure changes, both actual and planned, and the improvements in our military capabilities that have occurred since 1980. I will do this in terms of six basic force categories, ranging from "strategic nuclear" at one end of the conflict spectrum to "special operations" at the other.

Strategic Nuclear Forces

Since 1980, the number of bombers, ICBM launchers, and ballistic missile submarines has remained relatively constant. Within each component of the strategic triad, however, a portion of the force has been modernized, the number of available weapons has increased, and the accuracy of those weapons' warheads has improved. For the ICBM force, the major change has been the ongoing deployment of 50 very accurate 10-warhead Peacekeeper missiles in Minuteman silos. Within the sea-based portion of the triad, eight Trident SSBNs with 24 launch tubes apiece have been deployed, while some Polaris and Poseidon SSBNs were retired. Some of our older B-52 bombers were retired, and the B-1B was subsequently deployed. A significant increase in bomber weapon carriage accompanied the introduction of the air-launched cruise missile in the early 1980s.

The most significant implication of the FY 1989 Amended Budget for the future strategic force structure was the proposed termination of the Small ICBM. Congressional action and budgetary constraints also forced the cancellation of scheduled overhauls for two Poseidon SSBNs in FY 1988 and 1989, leading to the submarines' early retirement.

	FY80	FY83	FY85	FY87	FY89
Bombers (PAA)					
B-52	316	272	241	234	234
B-1B	-	-	1	58	90
ICBMs					
Titan	52	42	21	-	-
Minuteman	1000	1000	1000	973	950
Peacekeeper	-	-	-	27	50
SSBNs (Total Inventory)					
Poseidon	31	31	30	28	26
Trident	-	3	7	8	9
SLBMs (On-line)					
Poseidon (C-3,C-4)	336	400	336	288	416
Trident (C-4)	-	48	120	192	192

Between 1980 and the present, the number of available weapons within the total force increased by about 45%, with bomber weapons and SLBM weapons accounting for most of the growth. Over that same period, the accuracy of U.S. weapons improved steadily as forces were modernized. Today, the average circular error probable is about 40% less than it was in 1980. As a result, our modernized forces are becoming increasingly effective at holding vital Soviet installations at risk. In one highly aggregated measure of strategic nuclear kill potential, our strategic forces are over 50% more capable now than they were in 1980.

Land Forces

Since FY 1980, the number of divisions has increased from 28 to 32. We have formed two active component light infantry divisions, each with two active brigades and one reserve brigade, and have consolidated existing reserve component brigades to form a mechanized division and a light infantry division. The FY 1989 budget inactivates one brigade of the 9th Motorized Infantry Division and scales back our plans to activate additional battalions for the 6th Light Infantry Division. While this increases reliance on roundout units, it retains planned capabilities for heavy armored and mechanized forces--those that would bear the brunt of any conflict with the Warsaw Pact or comparably equipped opponents--and for rapid-reaction forces such as forward-deployed Marine Corps units and the 82nd Airborne Division.

	FY80	FY83	FY85	FY87	FY89
Army and USMC Divisions (Heavy/Light)					
Fully Structured Active	8/7	7/7	4/8	4/9	4/8
Active with Reserve Roundout	2/2	3/2	6/2	6/2	6/3
Reserve Component	3/6	3/6	4/6	4/7	4/7
Total	28	28	30	32	32

The primary increase in our ground capability since FY 1980 has come from the introduction of modern equipment into the Army inventory. The weapons systems primarily responsible for this increase are M1-series tanks, Bradley fighting vehicle systems, AH-64 attack helicopters, and the Multiple-Launch Rocket System. For example, at the end of FY 1980, the Army had 10,419 main battle tanks, of which the most modern were 1,251 M60A3s, while at the end of FY 1987 it had 14,876 tanks, including 1,274 120-mm gun M1A1s,. Similarly, the attack helicopter inventory has grown from 1,078 aircraft in 1980 to 1,327 today, of which 271 are modern AH-64s.

Overall, these changes in force structure and equipment translate into increases of as much as 50% in combat capability between FY 1980 and FY 1987. These increases have been complemented by modernization of supporting systems, increased training, and improvements in the quality of our soldiers.

Tactical Air Forces

Major improvements have been made in our tactical air forces since FY 1980. These changes have come largely from the fielding of improved aircraft rather than from additions to the force structure.

The Air Force has aggressively replaced its older fighters with modern F-15s and F-16s. The tactical force structure grew from 34.2 wing-equivalents in FY 1980 to 37.7 at the end of FY 1987. Budget constraints, however, will require the deactivation of two wings--one at Nellis Air Force Base and, tentatively, one at Torrejon Air Base--shrinking the force structure to about 35 wings by FY 1990. The Advanced Tactical Fighter will replace the F-15 and a variant of the Navy's Advanced Tactical Aircraft will replace the F-111, bringing new capabilities to our tactical air forces.

The Navy and Marine Corps have procured or funded 1,343 F/A-18, AV-8B, A-6E, and F-14 aircraft between FY 1980 and FY 1989. The Navy has increased its active force structure from 12 to 13 air wings, while holding its reserve structure at two wings. The trend has been to emphasize multirole capability, such as that embodied in the F/A-18. In addition, the Advanced Tactical Aircraft will eventually replace the A-6, providing a dramatic increase in deep-strike capability. In the longer term, we will consider replacing the F-14D with a variant of the Air Force's ATF. The Marine Corps will maintain its force structure of three active and one reserve air wings.

	FY80	FY83	FY85	FY87	FY89
Air Force (PAA)	2,466	2,587	2,682	2,712	2,628
Wing Equivalents	34.2	35.9	37.2	37.7	36.5
Navy (PAA)	820	811	838	847	851
Marine Corps (PAA)	430	411	402	427	441

Increases in tactical air capability since FY 1980 have been dramatic. Our composite effectiveness indices show a 140% increase in capability to kill air-to-ground targets and a 120%

increase in air-to-air kill capability. Further increases are expected as more modern aircraft and weapons are introduced.

Naval Forces

We have significantly expanded our naval force structure since FY 1980. The number of deployable battle force ships stands at 568 today, up from 479 at the beginning of the decade. Looking at specific elements of the force, the deployable carrier force has grown from 13 to 14 ships, with a 15th scheduled to join the fleet in FY 1989. Three battleships have been reactivated, and the fourth will reenter the fleet in FY 1989. The number of surface combatants rose from 181 to 229 at the end of FY 1987. That number will decline to 219 in FY 1989.

Some planned improvements have been delayed because of fiscal constraints--notably, achieving amphibious lift for a Marine Expeditionary Force and a Marine Expeditionary Brigade. In addition, sixteen older, less capable frigates will be retired early.

	FY80	FY83	FY85	FY87	FY89
Deployable Battle Forces					
Strategic Ships	48	41	43	43	43
Aircraft Carriers	13	13	13	14	14
Attack Submarines	79	98	100	102	103
Surface Combatants	181	199	218	229	219
Amphibious Ships	66	63	62	63	67
Mobile Logistics/Support Ships	92	99	106	117	134
Total	479	513	542	568	580

The actual improvement in naval capability is even more impressive than the raw numbers suggest. Progress in two critical areas--antiair warfare (AAW) and antisubmarine warfare (ASW)--is particularly noteworthy. The Aegis cruiser can simultaneously engage four to five times as many targets as a CG-16-class cruiser. The intercept envelope of the AIM-54 air-to-air missile has been extended by about 75%. The deployment in quantity of towed-array sonars and LAMPS MK-III helicopters has increased the ASW capability of surface combatants by a factor of more than ten. Attack submarines have more than doubled their aggregate capability, while that of the most modern maritime patrol aircraft has increased by 50%. The undersea surveillance system has improved its capability index by about 50%. Continued progress in ASW will depend on vigorous R&D programs that improve our ability to detect the significantly quieter new Soviet submarines.

Mobility Forces

The airlift force structure has increased steadily since 1980 with the procurement of 60 KC-10As and 50 C-5Bs. Sealift capability has also grown, despite the shrinkage in the U.S.-flag fleet, through a quadrupling of the Ready Reserve Force (RRF) and the procurement of eight fast sealift ships (FSS). Ashore and afloat prepositioning programs have increased steadily as well. For example, Army equipment prepositioned in Europe (POMCUS) has nearly tripled, and 13 Maritime Prepositioning Ships (MPS), carrying equipment and supplies for an entire Maritime Expeditionary Force, have been deployed. The lower budget limits for FY 1989 have, however, caused us to sacrifice some tactical airlift and to slow sealift expansion.

	FY80	FY83	FY85	FY87	FY89
Airlift (PAA)					
KC-10	--	18	35	57	57
C-5A/B	70	70	70	84	110
C-130	482	512	518	559	513
Sealift					
RRF (Dry Cargo/Tankers)	25/0	34/0	56/8	84/12	90/14
FSS	--	--	4	8	8
Prepositioning					
POMCUS (000 Short Tons)	176	246	362	478	525
MPS	--	--	7	13	13

Since 1980, we have expanded our wartime airlift capability by more than 50% and our sealift capabilities by one third, while increasing the amount of unit equipment in place in Europe threefold and that in Southwest Asia fourfold. Overall, our capability to deploy military unit equipment in a 30-day period by a combination of airlift, sealift, and troop deployment to prepositioned equipment has increased by 100% since 1980.

Special Operations Forces

We continue to give high priority to our Special Operations Forces (SOF). Since 1980, we have added an active-duty Special Forces Group; created two new SEAL teams and converted two underwater demolition teams to SEAL teams; and added eight SOF aviation companies. The improvements originally planned for FY 1989 have been largely sustained in the FY 1989 amended budget. In fact, the funding for the newly-created Major Force Program 11 actually increased by about 6%. In response to congressional concerns about concurrency, we have reduced procurement and increased R&D funding for some elements of Program 11.

	FY80	FY83	FY85	FY87	FY89
Special Forces Groups (Active/Reserve)	3/4	3/4	4/4	4/4	4/4
SEAL Teams	2	5	5	5	6
MC-130E/H (PAA)	14	14	14	14	24
AC-130A/H (PAA)	20	20	20	20	20
MH-53H/J (PAA)	8	8	8	8	36

The combination of increases in force structure and improvements realized through modernization has increased our capability to conduct special operations. With the aircraft scheduled for delivery in FY 1989, we will have almost tripled our ability to conduct such operations since FY 1980.

Conclusion

In conclusion, I would like to address what I know is one of the pressing, and very legitimate, concerns of this Subcommittee--i.e., What do projected budgets portend for our force structure in the future? I am unable to give you a detailed answer to this important question today. The reason is that within our internal budgeting and programming process, it is now the turn of the military departments to generate their force and program proposals, in consonance with the guidance and fiscal constraints that Secretary Carlucci has provided. These proposals, called Program Objectives Memoranda (or "POMs" for short), are due to my office in less than a week. They will cover the biennial FY 1990/1991 Budget and associated FY 1990-94 Five-Year Defense Plan, or FYDP. The military departments' proposals will be reviewed extensively, and undoubtedly altered somewhat, before being cast in final form in the President's Budget and FYDP submitted to the Congress next January. We are at an early stage in this process.

So, I have no specific answers as to force structure prospects today. But I do have some general points that I think are worth making in this context. First, under current fiscal guidelines, which reflect sharply limited real growth rates for defense expenditures, it is certainly possible that our aggregate force structure will have to decline yet further--*if* the remaining forces are to be sufficiently ready, sustainable, and modernized to meet their prospective adversaries. Second, the Reagan Administration is determined that our forces, at whatever level, remain adequate in these three vital respects. Third, at planned FY 1989 force levels--and even more so at lower ones--there is an acknowledged risk that we will not be able to deter conflicts, or prosecute a major one successfully. And finally, if Congress is uncomfortable with the resulting degree of risk, it should provide more money for larger forces, rather than "hollowing out" those we propose, which I believe would be an even riskier course.

I am ready now for your questions.

TRANSFER TO JAPAN OF AEGIS TECHNOLOGY

Senator JOHNSTON. Thank you very much, Mr. Secretary.

First, let me reiterate a concern that I have had. I know other members of the committee have, although we have not taken a vote on it. I suspect that it is a strong feeling of disapproval of the transfer to Japan of the Aegis technology.

Also, we do not know as much about the transfer of the submarine propulsion technology to Canada, but I suspect that is also shared.

I mention that because I know that I, and I think others, will make a major effort to disapprove those transfers at the appropriate time.

Now, Mr. Secretary, there is a civilian pay raise of 2 percent proposed in the budget but a military pay raise of 4.3 percent. This would suggest either, first, a lack of coordination between military and civilian, or two, a difference in recruitment and retention of high-quality people in the civilian side and the military side.

Is it one or is it two, and if it is two, why do they do a better job of recruiting and retaining people on the civilian side in DOD?

Mr. TAFT. Well, Mr. Chairman, if I may, first, on the Aegis transfer, you and I have discussed that when I appeared before the committee a couple of weeks ago, and I hope that we will have every opportunity to explain the advantages of this at the proper time.

Senator JOHNSTON. I just want to keep that issue fresh in your mind.

Mr. TAFT. Well, and I did not want to let it go by without assuring you that we are prepared to explain the advantages and virtues of that proposal, though this is, I gather, not the place for it.

PAY ISSUE

On the pay, the answer is that we do not view the military pay increase as something that we should tie in any automatic fashion to the civilian pay increase. I think that they are different markets, they are different requirements, different types of service, and the test of each should be what is a fair pay level and what is needed to produce the quality of the work force that we need.

I think that there has not been, that I am aware of, any logic behind, or any consistency in, tying these two pay systems together. Some years the raise has been the same, or there has been no raise. In other years, different rates have been adopted.

Certainly in the early 1980's and 1979, I think, or 1980, 1981, 1982, there was no suggestion that it made any sense to tie the military pay increase to the level that was given to the civilians, and the reason was——

Senator JOHNSTON. So your answer is that it is intentional and appropriate.

Mr. TAFT. Very much so, Mr. Chairman.

Senator JOHNSTON. The difference in the two pay raises.

Mr. TAFT. Yes, and there is no—you have to pay the military what you need to attract the quality of the force. If that is different from what you have to pay the civilians, that is what you should do. It is what we have done, and it is what we propose this year.

DECOMMISSIONING OF 16 NAVY FRIGATES

Senator JOHNSTON. Mr. Secretary, the decommissioning of the 16 Navy frigates, the Chief of Naval Operations testified the other day that he thought that was appropriate, given the cuts in the Navy, but he did not think the cuts in the Navy were appropriate. I am sure the Army would say the same thing, and the Marines.

CAPABILITY OF U.S.S. "MIDWAY"

But we wonder why you would retire these 21-year-old frigates instead of much older ships such as the carrier U.S.S. *Midway*, and specifically, if you would home in on the *Midway*, why is there such devotion to the *Midway* when, as we understand, it will not fly, I mean, you cannot operate it in rough weather, you cannot fly the F–14's off of it, it is rather unstable, it costs a lot to maintain, and it is going to be retired anyway?

Can you tell us why there is such devotion to the *Midway*?

Mr. TAFT. Well, I think that you can do a lot of things with the *Midway* that you cannot do with these frigates, Mr. Chairman, even though there are things that we would like to be able to do with the *Midway* that we cannot.

Senator JOHNSTON. Well, really, actually I am not defending the frigates.

Mr. TAFT. I am sorry?

Senator JOHNSTON. I say I am really not defending the frigates. I probably phrased that inartfully because I personally agree with that decision. I guess really I just want to home in on the *Midway*.

Mr. TAFT. Well, the *Midway* is a capable ship. It has some limitations in its operation, no question about that, but it does fulfill some of the most important commitments we have extremely well. It has been on station in the North Arabian Sea, for example, just in the past year, doing a very good job out there. It is one of the 14 carriers that we now have. We think we need 15. We will have 15 carrier battle groups operating in 1989, and the *Midway* is needed to fulfill that.

Senator JOHNSTON. It is not one of the force structure cuts you would be looking at to meet your requirements next year?

Mr. TAFT. We are going to have to look very hard at force structure again, I regret to say. But in the case of the 15 carrier battle groups, I would tell you, Mr. Chairman, that that is just very, very far down my list of the things I want to give up, and I am going to try just as hard as I can to preserve that force structure.

In the Navy program that they are preparing right now to submit, I know they have tried very hard to preserve it, and they have succeeded, and I am going to be trying just as hard as they have because I think this is vitally important.

As I said, force structure was the Navy's problem in 1980. It was just too small to carry out the missions we have. I do not think we want to go back to that period when we did not have enough ships so we had to deploy people for endless missions, and all of the problems that we had in retention and recruitment came out.

So it is a very high priority, and I guess I can tell you that if there is any way possible, and I think there is, we are going to have those 15 carrier battle groups in the Navy program.

Senator JOHNSTON. One final question, Mr. Secretary. All of the force structure cuts have been in the continental United States and none have been in, with the exception of the wing at Torrejon, Spain, all force structure cuts have been in the continental United States.

DEPLOYMENT OF U.S. TROOPS IN KOREA

Now, some of us are concerned about the Allies not picking up a big enough share of the tab, and I wonder if we have reexamined the needs in our foreign operations. For example, would you speak to the deployment of troops in Korea?

What do we have, about 40,000 troops in Korea?

Mr. TAFT. That is about right, 30,000 Army and the rest in the Air Force.

Senator JOHNSTON. And that has been the same over how many years?

Mr. TAFT. That has been the case as long as I have been in the Department.

Senator JOHNSTON. It goes back to, I think, a long time before that.

Mr. TAFT. I think longer than that; yes, much longer.

Senator JOHNSTON. Has that threat not changed considerably with the closer relationship with the PRC? Has the threat not changed, and should that be reexamined as part of future force structure examinations?

Would you deal with that whole subject?

BURDEN SHARING WITH ALLIES

Mr. TAFT. Well, Mr. Chairman, the fact is, as I think you are aware, that we are very much engaged in a discussion on burden sharing with our allies. In fact, I am heading a task force in the Department responsive to the legislation in this committee's bill that will be examining exactly that question, how much our allies shoulder and how much we shoulder. We will be discussing that not just with NATO, but with Japan and with Korea, and we are required and looking forward to getting back to this committee with the results of those discussions.

The force structure issue is both related to that and whether we can take force structure reductions either overseas or here in the continental United States. It may make sense to shift some of the burden by reducing our force structure but still maintaining the same amount of forward deployed forces and taking people down out of the reinforcement forces here in the United States.

In weapons I would say that is pretty clearly the case in the near term where we have very active discussions about to begin on the conventional force balance, and I think it would be a mistake for us to unilaterally adopt any reductions there.

We will be discussing it with the Koreans as well.

Senator JOHNSTON. Well, it looks to me like we ought to reexamine this whole question. For example, I mean, we were just discussing here, why not relook at Korea? Well, I think the answer is because Jimmy Carter proposed bringing home the Second Division and got beaten up very badly politically. And it has not been looked at since then.

But here you have South Korea, a much stronger country economically, and much larger than North Korea. The PRC is not going to support an offensive, and I do not think the Soviet Union will either. And yet we continue to maintain at a cost of billions of dollars those troops over there.

Now, I think we ought to reexamine. I am not saying we ought to withdraw, but I am thinking we ought to reexamine that question rather than just saying automatically because Jimmy Carter tried and failed, and rather ineptly tried and failed, that it never ought to be reexamined. I think it should.

Mr. TAFT. Well, I think, Mr. Chairman, that the whole burden-sharing issue and these factors you mentioned will be part of that discussion that we will be having with the Koreans over the course of the coming months.

Senator JOHNSTON. Gentlemen, let's not have a time limit. Let's just rely on the usual capacity for brevity that our committee has.

Senator SASSER. Mr. Chairman, that is a slender reed, I must say.

Senator JOHNSTON. You are not referring to any of the Senators as being slender reeds, I know.

Senator D'Amato I think wants to put in a statement.

PREPARED STATEMENT

Senator D'AMATO. Mr. Chairman, I ask unanimous consent that I be permitted to submit my statement for the record as if read in its entirety.

Senator JOHNSTON. Without objection. That serves as a great example for other Senators.

[The statement follows:]

STATEMENT OF HON. ALFONSE D'AMATO

U.S. SENATOR FROM NEW YORK

Mr. Chairman, I welcome back Deputy Secretary of Defense William Howard Taft before our subcommittee to speak on the future of our Defense force structure. I also welcome to the subcommittee the Deputy Chiefs of Staff for the services.

According to the budget presented to Congress for fiscal year 1989, an estimated $228 billion will have to be cut from the 5-year Defense plan presented to Congress last year. Over $53 billion will need to be cut from just fiscal years 1988 and 1989 alone. To meet these cuts, the Department of Defense has made significant force structure decisions.

Of particular interest to me is the apparent abandonment of the goal of the 600-ship Navy, demonstrated by decommissioning of 16 frigates. As you are well aware, Mr. Chairman, eight of these ships involved drug interdiction efforts with the Coast Guard. Not only do I have concerns about the shortfall of necessary ships for the Navy's force structure, but I am deeply concerned about what available resources will be used to continue the Navy's role to stem the flow of narcotics into this Nation.

I am also concerned about the reductions made in light infantry forces. The Army has requested to cancel plans to activate two light battalions. Although these reductions may seem reasonable at first, I have serious concerns whether the Army is losing its commitment to the light forces and these forces will be first on the chopping block if cuts are necessary in the outyears.

The difficult choices are being made, Mr. Chairman. Unfortunately, it is tough to prioritize our national security. I do not envy your job, Secretary Taft. I hope you will work closely with Congress over the next few months to work out a defense budget that will preserve our national security without disproportionately impeding our efforts to reduce the deficit.

I look forward to working with you, Mr. Taft, and the Deputy Chiefs of Staff as the budget process moves forward.

Thank you, Mr. Chairman.

FORCE STRUCTURE CHANGES AT EXPENSE OF AIR GUARD

Senator JOHNSTON. Senator Sasser?

Senator SASSER. Thank you very much, Mr. Chairman.

Mr. Secretary, there are some force structure changes in this budget that I must take strong issue with, and they all relate to the Guard and to the Reserve, and particularly the Air Guard.

Now, the budget proposes to begin reducing the number of aircraft assigned to the Air Guard tactical fighter wings, and at the same time reduce the number of aircraft assigned to tactical airlift wings.

I just think that this force structure decision on the part of the Department, at least it appears to me to be penny wise and pound foolish. I have indicated before that I think the Guard, and particularly the Air Guard, is one of the most cost-efficient expenditures of our defense dollar. For a fraction of the cost of maintaining active wings, we can still maintain the same number of aircraft in units, I might add, that are combat ready and militarily effective.

Now, I have seen some of these Air Guard pilots operate in my own State. Many of them are in the airlift end of it. Many of them are airline pilots, for example. Many of them have hundreds of hours in the Air Force. And these are first line, first grade, quality pilots. And I think the Department is moving in the wrong direction here. During these times of budgetary stringency, we ought to be trying to look at ways to increase more bang for the buck.

One way of doing that, I think, is by enhancing the Guard and Reserve and not by reducing its effectiveness.

Now, this comes at a time when the Air Force is coming in here, they will be here tomorrow, pleading for some very costly incentives to keep pilots in the Active Force. The airlines are hiring all of our pilots away, and perhaps that is true, but they want more money, more incentives, bonuses to keep pilots in the Air Force while, in essence, they are kicking pilots out of the Air Guard, where at least in my State I know that we have highly qualified pilots who are eager to serve.

Now, Mr. Secretary, I would like to ask you to comment on these concerns because, quite frankly, I think they are shared by a number of my colleagues on this committee. And I would like to ask you to go back to the Pentagon and conduct a high level review of these Air Force structure proposals.

Frankly, I do not see how these proposals are going to stand up to objective scrutiny in view of the need to moderate spending, and frankly, I also think there is an impulse out there in the airlift section of the Air Force to hold on just as long as we can to these aircraft, and I think they are just postponing the inevitable, and while they are postponing it, I think we are losing valuable aircraft, and I think we are losing valuable pilots out of the Air Guard.

What do you say about that, Mr. Secretary?

Mr. TAFT. Well, Senator, I would say that we share your sense of priorities in the Air Force as between the Guard and the Reserve and the Active Force, and that our budget shows that. My figures show, for instance, that between 1987, 1988, and 1989 the Air National Guard is about level—114,000 in 1987, almost 116,000 in 1988, and a little over 115,000 in 1989. The Reserve is 80,000 to 82,000 to 83,000. So it is actually going up.

You contrast that with the Active Force and we have got a reduction of about 35,000 people, 35,000 gone from the Active Air Force between 1987 and our projected 1989, the Reserve and National Guard are holding level. So we have done exactly what you said. We have not increased the Guard and Reserve, or at least not much. We have increased the Air Force Reserve slightly. But our budget is going down.

So I think having held it level, and taking that cut in the Active, which is a really dramatic one, demonstrates that we agree with you, that in times of straitened fiscal circumstances, the Guard and Reserve are a better bet. And that is where our priority shows we have maintained there. We have not expanded, but we have maintained.

I would like to expand in the Guard and Reserve. I would like to expand, not have had those reductions in the Active. But the priority is very clear there. In the 35,000 reduction in the Active Force, I do not think you can say—and nothing in the Guard and Reserve—I do not think you can say the Guard and Reserve have not been protected or received a priority; they have.

NATIONAL GUARD FLYING HOURS

Senator SASSER. Well, we can disagree on that, Mr. Secretary. We had the Chief of Staff of the Army up here the other day, and I reminded him or pointed out to him some testimony from the general in charge of the National Guard Bureau that they were not getting enough flying hours in their helicopters in this upcoming budget to keep their crews proficient.

The Chief of Staff went back and looked at that, and by golly, he has increased the number of flying hours for helicopter crews in the Guard, which I thought was a very quick turnaround, a very quick reaction, and one that I appreciated very much, and I am sure these Army Guard helicopter crews appreciate.

REDUCTION IN GUARD AIRCRAFT

Now, let me just give you an example of what we are talking about. In my home State of Tennessee, we now have in Nashville, TN, 16 C–130A's. They are going to be replaced with the new model C–130, but they are going to reduce the number of aircraft from 16 down to 12.

Now, I am advised that that ultimately is happening all through the Air Guard through 1991. When you start quizzing the Active Air Force about it, their response is, "Well, we want to spread the pain around." But it is not a question of spreading the pain around. It appears to me it ought to be a question of trying to maintain the most cost-efficient airlift that we can, and there are areas of the Reserve or the Guard which are not as efficient as others.

For example, I can understand the Navy retiring these frigates and saying that the powerplant units are such that they simply cannot be maintained by Reserve personnel, we would have to have active people there to maintain them, et cetera, et cetera. The utility just exceeds the cost.

But in the question of flying of military airlifters, it appears to me that utility of keeping these aircraft in service that can be flown by seasoned, competent, high-hour pilots on weekends who are on call, who we have seen serve so well in flying troops and materiel down to Central America, to Vietnam during the Vietnam War, these guys are as good as the people in the active service, and if we can keep these aircraft in service and these air crews in service at a fraction of the cost of the active service, it appears to me that is something that we ought to do.

Now, I can understand the Air Force's argument if they are talking about tactical fighters and all of that business where you have to maintain a lot of flying hours, formation flying, air-to-air fighting tactics, et cetera, et cetera, but when you are essentially driving the bus, flying the C–130 here or the C–141, I do not think the argument holds. At least it is not persuasive to me.

BURDENSHARING

Let's move on to something that we do have an area of agreement on. I would like to note for the benefit of the committee, and I am pleased that our chairman now shares my concern about burdensharing. I think that is an idea whose time has come. And I think the Department of Defense is starting to realize that. I am pleased that Secretary Carlucci has established a task force on burdensharing, and that you, Secretary Taft, will chair that task force.

I am strongly supportive of the effort that you and Secretary Carlucci are making on the whole question of burdensharing. I sense that for the first time in my 12 years in the U.S. Senate, the Department of Defense is getting serious about the question of burdensharing.

Would you share with the committee some of your plans for this task force that you are chairing, and I think you are going to—just tell us what your plans are with it.

Mr. TAFT. Yes, Senator, I would be glad to do that.

We are, as you have said, just getting under way with this. We have a plan that will give us over the next 6 months, I think, the basis for making changes in what we do, if that is warranted, in the allocation of the burden, and a plan that we can come back with proposals to the Congress or to the allies.

The first step of that plan is to visit with the allies in the course of the next month. We will be going to discuss the allocation of our risks and responsibilities, burdens, in Europe and in Japan and Korea, and trying to get some understanding in the allied capitals of the seriousness with which this issue is viewed here and also solicit their ideas and recommendations to us of things that they might have in mind.

We will then come back to the United States and discuss with the Congress, with others, various people in the administration, as well as in the private sector, what of the ideas we have received seem to have merit, of the ideas we have had of our own, other ideas, to improve the situation. We will then go back for further discussions with the allies, and the conclusion of it would be a report to the Congress, pursuant to, I think, the amendment of this committee requiring us to report on the discussions we have had and any of the steps and agreements that have developed out of them.

That is the plan. And we would expect to conclude that whole series of actions sometime in the fall.

Senator SASSER. Actually, Mr. Secretary, that was a requirement put in the Military Construction bill. I chair that subcommittee, and we put that in our last bill.

I think you are going to have some good results when you take this message directly to our allies in Europe. I think that many of them, by their public statements, parliamentarians, are making statements to the effect that how long can we expect the Americans to maintain over 300,000 troops here in Europe with 330,000 civilian employees and dependents over 40 years after the Second World War, when our GNP in Western Europe exceeds that of the Soviet Union, when our population in Western Europe exceeds that of the Soviet Union, how long can we expect the United States to stay here in such force?

These are statements being made by parliamentarians in Western Europe. So I think, Mr. Secretary, you are going to have some success in your journeys to the capitals of Western Europe and in your conversations witn your counterparts in various defense establishments, and I think the fact that we are sending someone at your high level from the Department of Defense to carry the message indicates to our European allies that at long last we are getting serious about some burdensharing here.

Now, I do not share the approach of some who want to unilaterally pull our troops out of Europe as a way of effecting better burdensharing. I was interested to see that former Secretary Henry Kissinger is taking that position, at least in some of his articles. I think that is the wrong approach. But I think our allies have to understand there is growing concern in this country to improve burdensharing, and I think as we move into these discussions, as I have told you before, with the Soviets and the Warsaw Pact, flowing out of the INF Treaty, as we move into the question of, hopefully, a reduction of conventional forces in Europe, that we make it clear to our NATO allies that if and when these reductions come, that the United States initially ought to be able to take the lion's share of these reductions in conventional arms, and I am sure that you will share those thoughts with our European allies.

Mr. Chairman, I have got some more questions here but in view of your admonition that our conscience should be our guide on how long we should go, my conscience is starting to hurt me. So I will defer to Senator Rudman.

Senator JOHNSTON. Senator Rudman?

Senator RUDMAN. I thank my colleague and thank the Chairman.

TRIM PROPOSAL

Mr. Secretary, I do not have a very complicated series of questions. I have a philosophical line that I would like to follow with you, and it should come as no surprise to you because about 2 years ago I proposed something that caused cracks to occur in the walls of the Pentagon. It was called a trim proposal. You and I talked about it a great deal.

The trim proposal was devoted to the proposition that we would have these problems about this time, that we ought to do something about the tooth-to-tail ratio, and see if we could keep combat structure, yet reduce people.

As I look at what has been done, fully recognizing that you have had a series of difficult choices, and I am not minimizing those, it is obvious that what has been done in the main in this reduction of about 40,000 people, which is about 2 percent of the total force, has been to reduce administrative forces. You mentioned yourself that you would prefer not to make substantial reductions in terms of Army, Marine Corps, Navy, and Air Force combat structure.

My question is, was there any real thought given by the Chiefs, or by DOD, to going through the structure as it exists with the thought of further reducing the tooth-to-tail ratios by transferring or canceling out more headquarters billets and other billets which exist in this structure. This would allow you to retain the combat structure which is what we are really all about? I do not minimize the need for logistics, supply, procurement, and so forth. I am simply asking whether or not there was any great amount of thought given to the reduction of headquarters billets as a viable option. I am suggesting a 2-percent reduction of force, but it has been taken in the main, it seems to me, from a lot of combat structure.

I would just like to know how you went about that.

Mr. TAFT. Well, I thought we had been doing that, Senator, and let me just explain why I have that impression.

In the Army, for instance, we have in this particular year, we have taken out 10,000 civilians who are in the support side, and we have taken about 8,400 active end strength out of the Army, without any significant reduction, in fact, without any reduction proposed in the Army National Guard or the Reserve.

Even taking the active component, less than half of that is actually from an active brigade, the 9th Infantry Division brigade.

Senator RUDMAN. That is about 3,000 people.

Mr. TAFT. About 3,000 people, and we are actually going to fill that with a Reserve brigade which at the present is not attached to a division. So indeed, we will be doing exactly what you say with the roundout brigade, maintaining that combat capability that that division has, but with the Reserve doing it.

In the Army as a whole, I think you will find that over the last 6 or 7 years we have actually stood up some active divisions, but within a fixed end strength, and we have done that by taking those people out of the support places that they were in the active, filling in behind them where all of our growth has been in the Guard, and putting them out into the combat divisions. We have formed the two light infantry divisions in that way.

Senator RUDMAN. I would agree. I think what General Wickham did in doing that, and I have had a lot of meetings with General Wickham about that, was just a prime example of how you mobilized more combat forces and reduced other forces, recognizing, and everybody recognized at the time that there were some shortcomings, that you obviously cannot forget about logistics and other support because, quite frankly, without them you cannot deploy forces and you cannot sustain them.

Mr. TAFT. You cannot fight them.

END-STRENGTH DECREASES

Senator RUDMAN. Nonetheless, it is harder to train those people than some of the people in support units. So the Army did it.

I am not sure it has been done to the same extent in the Air Force or the Navy. I have high regard for both of those services and their professional competence, but I am just not sure that philosophically it has been done the same way. In the Navy you are retiring frigates. You are taking 4,400 slots out to do that. You are not standing up an air wing. That is 1,600 people. That is about 6,000 people, total.

And then there is a general figure of 22,000 decrease in end strength which comes from Marine Corps and Naval Reserve.

But taking about 6,000 people from active duty forces, if you have to do that, makes me ask as you look at all of the commands within the Navy and the Air Force, and to some extent the Army, though they have done a good job, is it not possible to restructure the way we think about those things and maintain the forces which, after all, is what the military services are all about, when deploying fighting forces in times of crisis? They have done it well, but we have not been called to do it on a major scale, at least not yet.

Mr. TAFT. Well, I would say that your suggestion is a good one. I hope that our budget will show that we have done that.

It is a harder proposition in the Navy. We have doubled the number of people in the Reserves over the last 7 or 8 years in the Navy, but they still, of course, in proportion to the Active Force are much smaller. It is in the nature of the force. If you are going to have people on ships, active is the preferred way to go. We do have some Reserves who are serving even in the gulf now, and we have made some, I think, very important strides in making better use of the Reserve in the Navy, but there is a natural limit there which is a little lower as a proportion than you can do in the Army or the Air Force.

The Air Force is, in a way, one of great success, Senator, in the past, the Air Force was very early in making use of the Reserves. In the 1970's they were doing some of the things that the Army began to do in the 1980's. So there was less room for improvement there, but some, and we look at it.

COLONEL RESOURCES

Senator RUDMAN. I have a letter here which I think is symptomatic. It is a public document. The committee has it, it got it through normal channels. It is written by a MAC colonel who is talking about colonel resources. He says the manning levels of our line colonels and colonel selects are 126 percent Air Force-wide, MAC at 150 percent. We now have nearly 200 more colonels in the Command than authorized colonels billets, and the situation is getting worse. He goes on and on and on.

I did a study back in the time of the trim proposal. I have got nothing against colonels. The fellow who wrote the letter was a colonel. The fact is the situation in some of these commands is getting very top heavy. Organizations within organizations are created because you have got these very qualified people. It seems to me there has got to be a better way to do the reduction that we have to do, and you by your own statement think you are going to have to look at it again next year.

Let me give you an example of what I am talking about.

Are you familiar with the table of organization and equipment, the TO&E of an Israeli Air Force F-15 wing? Are you familiar with it?

Mr. TAFT. No; I am not.

Senator RUDMAN. Well, I suggest you become familiar because members of this committee made a trip to the Persian Gulf almost at the same time the Secretary was there, and one of the things we did was stop in Israel on our way back to study something. I would highly commend that people look at it.

I do not have the exact number here—I wish I did—I am going to be conservative and say that the total strength of that unit, using the same equipment, the same maintenance equipment, the same aircraft, U.S. aircraft, was something under 50 percent in terms of people, and that was for a total maintenance organization, combat ready. And we asked them how that was possible.The young Israeli Air Force general who was briefing us told us that they had a different philosophy than we did on how you do that. They also made the point that, as far as they were concerned, they were within 9 minutes of where they would be involved in combat, so they were not cutting anything, they were doing what they thought was necessary, and it was a stunning figure.

Now, we also were shown some figures on the French Air Force, and their latest model Mirage aircraft, or Mystere aircraft, and it was about 60 percent of our structure.

I am simply suggesting that now when we are coming into a time when there are going to be less resources available, I would certainly hope that the highly competent people that you have in the services would take a look at, I mean, go back to square one and see if there is not a better way to organize some of the things that we are doing.

Obviously you need so many sailors on a ship, so many crew members in an airplane, and so many soldiers in a rifle company. I know that. But it seems that the whole structure with which you support these units is top heavy. Many people still believe it is. I am sure that some of your chiefs are going to take strong issue with that, they are entitled to their opinions, and they may be right, but many of us have a sense that we still have not gotten down to the crux of how we reorganize our total forces.

And we want to work with you. We have given you less resources. Obviously you have got problems with that. Many of us wish that it were different. But I really hope that by the time we get into final marking here, there might be some ways to make easier decreasing the number of ships, the number of wings, and the Army to a lesser extent.

Mr. Chairman, I would have the Secretary respond, but I do think that there is much room for innovation in how we go ahead with this force structure.

Mr. TAFT. Well, Senator, let me just make two points in response. The first is that we do have at the headquarters level, you may have heard, an effort underway to examine our structure and see if there is duplication there. We have a report in from the Deputy Inspector General. The Secretary is reviewing that, and we may have some recommendations coming out of that, and I think that they would produce savings, but also I think possibly efficiencies in the way that we operate.

As to the structure of the wings and so forth, I would have to say that that is something that I am not myself familiar with, but you have caught my attention, and I think we will be looking into that.

Senator RUDMAN. I appreciate it.

Senator JOHNSTON. Mr. Secretary, could we get a copy of that report?

Mr. TAFT. We have—it will be made available to you, I think, after we have finished the review of it. It is with the Chairman of the Joint Chiefs of Staff.

What I would like to do, what the Secretary would like to do is get his recommendations on it and then present the whole package to the Congress when we have concluded.

Senator JOHNSTON. Do you know about when that would be?

Mr. TAFT. We would anticipate that will be within, I would say, within a month or so. It has been in now, we have had it for 3 weeks, I believe, and I think the Chairman is due to report back to the Secretary with his recommendations within a week. And then we will deal with those, and I hope we will have something to show you.

Senator JOHNSTON. All right.

DEFENSE BUDGET INCREASE

Just one final question. The Defense budget today is about 50 percent higher in real terms than it was 10 years ago. Yet we do not have any increase in Navy ships or procurement quantities in terms of weapons.

How do you explain this phenomenon. I know you would say there is no more fat in the system. Are personnel costs up, or just why is it?

Mr. TAFT. Well, I am not sure I understand, Mr. Chairman. We have 100 more ships in the Navy today than we had 10 years ago.

Senator JOHNSTON. You are talking about 10 years ago.

Mr. TAFT. Yes; we had 479 in 1980 and we have 580 today.

Senator JOHNSTON. I say other than the—excuse me, it really is other than the increase in Navy ships.

Mr. TAFT. Oh, other than the increase in Navy ships, what have we got? Is that what you are asking?

Senator JOHNSTON. Yes; why do we not have more to apparently show for it?

Mr. TAFT. Well, I think we have a lot to show for it, Mr. Chairman. We have, as I mentioned, an increase in force structure largely in the Navy. The other forces have put their improvement mostly into readiness, sustainability, and modernization. I think if you look at the Air Force today and you see the number of F–15's and F–16's that we have in the force compared with what we had in 1980, you would agree that there is a tremendous increase in the capability there.

If you look at our strategic forces, you will find the same things in terms of the accuracy of the weapons and the ability of the bombers. If you look at the Army and see the Bradleys and the M–1's replacing the 113's and the M–60's, you will see the same thing, and also when you look in the ammunition bins, when you look at the training hours, and when you look at the quality of the people. Military pay has indeed gone up, and the quality of our people has gone up in terms of the recruits we have from what it was 10 years ago. Just take the Army. About one-third of the Army recruits in 1980 were high school dropouts. Today we have 95 percent high school graduates.

That is where your money is going. It is going, in the Army and the Air Force, certainly, into training, readiness, quality of people, and modernization, in the Navy into force structure as well as those things.

Senator JOHNSTON. Thank you very much, Secretary Taft.

Mr. TAFT. Thank you very much, Mr. Secretary. It has been a pleasure.

Senator JOHNSTON. Thank you, Mr. Secretary.

We will have written questions from Senator Byrd which we will submit for the record.

FORCE DEVELOPMENT AND INTEGRATION

STATEMENTS OF:

MAJ. GEN. WILSON A. SHOFFNER, ASSISTANT DEPUTY CHIEF OF STAFF FOR OPERATIONS AND PLANS, FORCE DEVELOPMENT AND INTEGRATION

VICE ADM. H.C. MUSTIN, DEPUTY CHIEF OF NAVAL OPERATIONS FOR PLANS, POLICY AND OPERATION

MAJ. GEN. C.E. MUNDY, JR., DEPUTY CHIEF OF STAFF FOR PLANS, POLICIES AND OPERATIONS

LT. GEN. MICHAEL J. DUGAN, DEPUTY CHIEF OF STAFF, PLANS AND OPERATIONS

Senator JOHNSTON. Next we will hear from Generals Shoffner, Mundy, and Dugan and Admiral Mustin.

Gentlemen, we have, of course, heard from the Deputy Secretary. What we would like for you to do is briefly summarize not the same material, but any differences you may have with the Secretary or any points that particularly need to be emphasized, but we do not need the same ground plowed.

So let's begin with General Shoffner.

General SHOFFNER. Mr. Chairman, and members, I would like for you to know that I appreciate the opportunity to talk to you about the strides your Army has made in force structure in the decade of the 1980's. I will try not to replow any ground that Mr. Taft has covered, and briefly address the highlights of the written testimony which has been provided for you.

Today's Army is the best ever fielded by the United States, and with your help, the Army is better structured to provide a balanced set of forces to fulfill global responsibilities required by our national strategy.

FORCE MODERNIZATION

Modernization of these forces is well underway today. They are better manned, and the quality of the soldier is at an all time high by any unit of measure. The Army is more prepared today than it was in 1980 to transition to war, and it provides a credible deterrent based upon a genuine warfighting capability.

The Army has been involved in an unprecedented period of change this past decade. We have revamped our doctrinal and structural framework and we are making major changes in fielding equipment. This change resulted from an assessment of the environment of the late 1970's and 1980's, and the Army's response to both external and internal factors which drove the change.

A major impetus to relook at our doctrine and structure was threat driven. During this period the Soviets made significant changes in four prominent areas that increased the risk to the security of America. These are, one, an unabated Soviet modernization of conventional forces on the European continent and direct involvement of the Soviet Army in Afghanistan; two, continued and increased action of Soviet surrogates in the Middle East and Africa; three, expansion of regional instability by Soviet-sponsored clients in Central America; and four, support for the emergence of terrorism as an element of national power by radical elements.

Additionally, the Army was faced with some key internal areas that required resolution. These were, first, the need to modernize and replace aging and obsolete equipment left over from the Vietnam era; second, the need to rethink how to fight on the modern battlefield with global responsibilities across the spectrum of conflict, and how to achieve responsive, strategic deployability; and third was the need to take the hollowness out of the force.

To deal with the come-as-you-are war, the Army had to improve the designs of its structures as well as the manning and equipping of the force.

These factors provided the backdrop against which the Army began this decade. Additionally, the Army kept its eye on the principle that to be a successful deterrent, the warfighting capability must be seen to be credible by the opponent. This capability has been improved. The details are in the written statement provided for the record.

Let me highlight some of the major points.

First, doctrinally. Air-land battle doctrine is the product of the 1980's. This doctrine focuses application of joint combat power across the total battlefield, rear, close, and deep, and it has reenergized maneuver-oriented warfare. It puts a premium on one of our greatest assets, the tactical leaders. Air-land battle doctrine is verified every rotation of our combat brigades to our training center at Fort Ervin, and in the annual Reforger and Team Spirit exercises.

On structure, the Army fixed its end strengths at 781,000 in the early 1980's. This provided the needed stability of resources for the modernization program. Yet the total force warfighting capability was increased. More reliance has been placed on reserve components which has provided more combat as well as support units.

Four divisions have been added, forces such as Rangers, Special Operations Forces, and light infantry divisions added to improve our capability to respond rapidly to potential trouble areas. The utility of these forces was demonstrated in Grenada and as recently as the deployment to Honduras.

And finally, that portion of our force structure known as Component 4, or Compo 4, that which is required by the design force but is unresourced, Compo 4 has been reduced by nearly 80 percent.

FORCE MANNING

Next, manning the force. As you know, the Army has achieved its recruiting goals and recruits soldiers who nearly all are high school graduates. We are manning the active structure at about 97 percent today with those soldiers.

At the same time, prudent employment of civilians has redirected over 14,000 soldiers who were performing outside their units on a daily basis. This is a significant upgrade to readiness.

Reserve component manning has also improved, as nearly 200,000 paid end-strength has been added. It is the faith and support provided by Congress to the Army over the past several years, which has assured success in manning the force.

Turning to the 1989 budget, the amended President's budget includes a reduction of the Army's end-strength, a reduction of 8,600 soldiers. This decrease includes both fighters of the force as well as supporters.

Our analysis showed that cuts could not be taken solely from the TDA Army, the support side, without placing this part of the force at an unacceptable risk. We took a balanced approach, and rather than hollowing out the force or salami slicing, we made the hard decision of taking down some units.

This decrease deactivates brigades, some 2,510 spaces, from the 9th Infantry Division and cancelled the program activation of two infantry battalions for the 6th Infantry Division in 1989. Additionally, it reduces some aviation structure and other components of the support base.

CIVILIAN END STRENGTH

Of special concern is that our civilian end-strength is also being reduced by about 12,000. This civilian reduction resulted partially from the end-strength reduction, but more so from an affordability assessment.

It is too early to assess the full impact of the civilian reductions. The issues are complex, the impacts are region-specific, and the totality is still being worked. The amended President's budget results in a somewhat smaller but powerful Army, well trained and well led.

These are key tenets to sustaining your forces as a credible deterrent. The Army needs your continued support if we are to meet the requirements of our national strategy.

It is my pleasure to have had the opportunity to appear before you. I am prepared to answer your questions.

[The prepared statement of General Shoffner follows:]

PREPARED STATEMENT OF MAJ. GEN. WILSON A. SHOFFNER

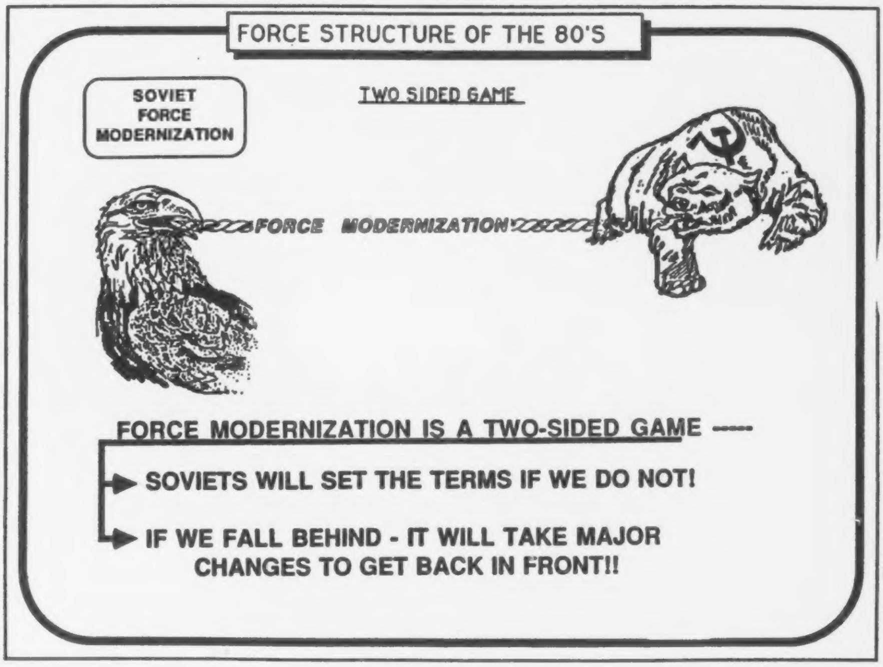
ASSISTANT DEPUTY CHIEF OF STAFF FOR OPERATIONS AND PLANS

FORCE DEVELOPMENT AND INTEGRATION

Mister Chairman, members of the committee, I appreciate this opportunity as the Assistant Deputy Chief of Staff for Operations and Plans to address you on behalf of the Total Army -- the active force, the Army National Guard, the Army Reserve, and the civilian work force. My focus today is on the Army force structure and progress enjoyed during the 80's. The progress I will address is attributable to your support over the past eight years and to initiatives taken by the Army to assure the most effective use of the resources entrusted to our care.

THREAT

Our progress in modernization cannot be viewed in isolation; it must be measured against what progress the threat has made in modernizing its forces. The threat to America's national security interests is multifaceted, complex and directed against our interests throughout the world. The Soviet has been, is, and for the foreseeable future will remain the principle threat to our security. Despite General Secretary Gorbachev's focus on economic restructuring and his call for a new openness in Soviet society, the military threat from the Soviet union continues to increase at an alarming pace, taking up to 15-17% of its GNP, more than 2-1/2 times the percentage we spend. (Figure 1)



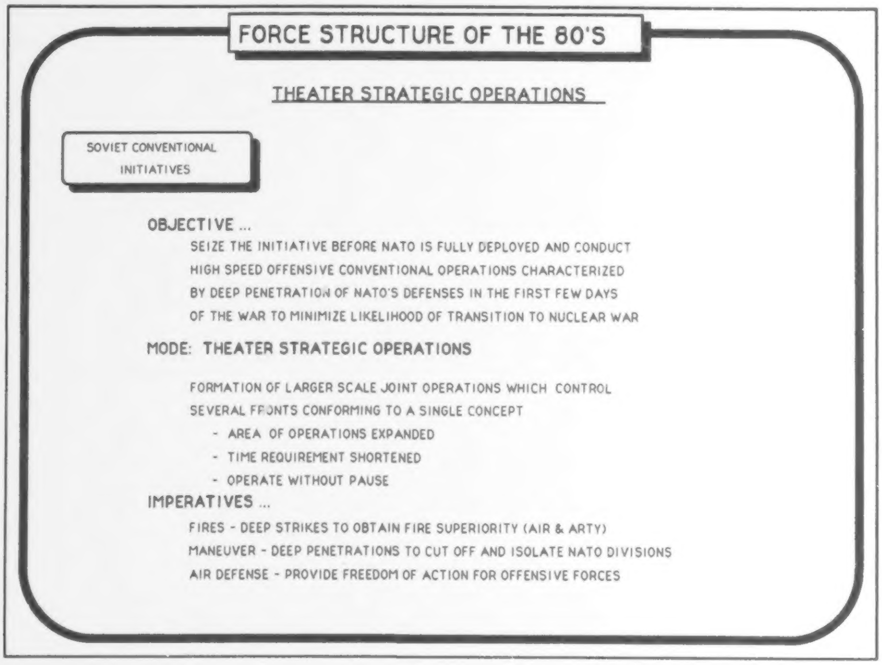
FORCE MODERNIZATION IS A TWO-SIDED GAME ----

- SOVIETS WILL SET THE TERMS IF WE DO NOT!
- IF WE FALL BEHIND - IT WILL TAKE MAJOR CHANGES TO GET BACK IN FRONT!!

(Figure 1)

Soviet modernization has been focused in four areas: conventional warfighting capability, projection of military power, employment of surrogate forces in the third world and promotion of terrorism as a destabilizing factor. To put force structure changes as a result of the FY89 budget in context, I want to highlight key elements of its modernization.

Soviet force modernization efforts seek to provide the assets and capabilities required to execute a Theater Strategic Operation (TSO). (Figure 2) A standard TSO might call for continuous offensive operations of several fronts to seize objectives up to 1,200 kilometers deep in less than 15 days. In Europe, qualitative and quantitative improvements in Soviet forces designed to successfully conduct a TSO continue to produce an imbalance of forces in the Warsaw Pact's favor. Emphasis has been on improvements in conventional forces.



FORCE STRUCTURE OF THE 80'S

THEATER STRATEGIC OPERATIONS

SOVIET CONVENTIONAL INITIATIVES

OBJECTIVE ...

SEIZE THE INITIATIVE BEFORE NATO IS FULLY DEPLOYED AND CONDUCT HIGH SPEED OFFENSIVE CONVENTIONAL OPERATIONS CHARACTERIZED BY DEEP PENETRATION OF NATO'S DEFENSES IN THE FIRST FEW DAYS OF THE WAR TO MINIMIZE LIKELIHOOD OF TRANSITION TO NUCLEAR WAR

MODE: THEATER STRATEGIC OPERATIONS

FORMATION OF LARGER SCALE JOINT OPERATIONS WHICH CONTROL SEVERAL FRONTS CONFORMING TO A SINGLE CONCEPT

- AREA OF OPERATIONS EXPANDED
- TIME REQUIREMENT SHORTENED
- OPERATE WITHOUT PAUSE

IMPERATIVES ...

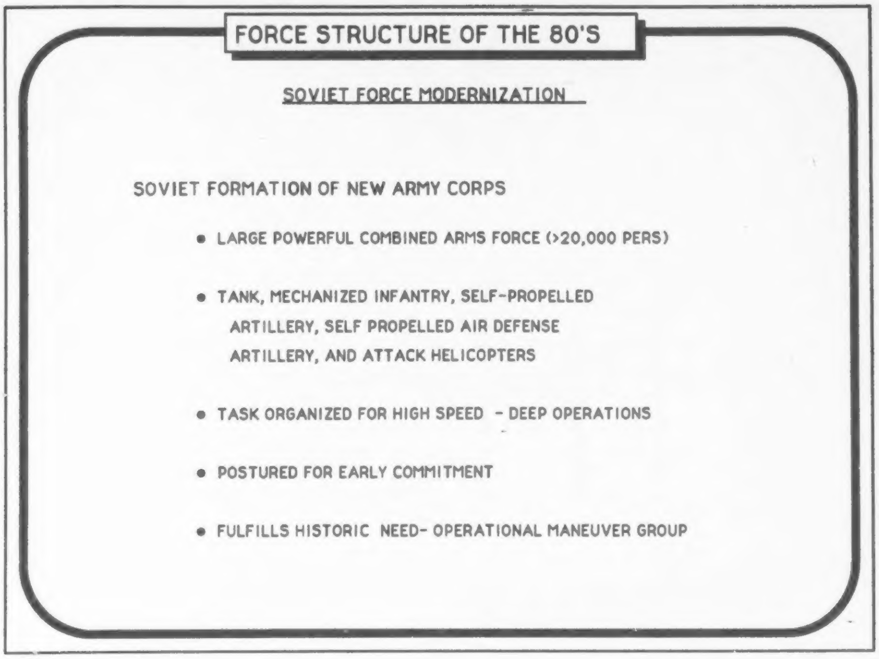
FIRES - DEEP STRIKES TO OBTAIN FIRE SUPERIORITY (AIR & ARTY)

MANEUVER - DEEP PENETRATIONS TO CUT OFF AND ISOLATE NATO DIVISIONS

AIR DEFENSE - PROVIDE FREEDOM OF ACTION FOR OFFENSIVE FORCES

(Figure 2)

One of the most significant factors in Soviet force modernization is renewed emphasis on the concept of an Operational Maneuver Group (OMG) to facilitate the rapid advance of the main force by quickly moving into the enemy's rear area through gaps or weak points. The OMG (Figure 3) will be assigned missions to support attainment of Army and front commanders' deep objectives. Formation of the new Army corps provides the Soviets the OMG which their doctrine demands.



FORCE STRUCTURE OF THE 80'S

SOVIET FORCE MODERNIZATION

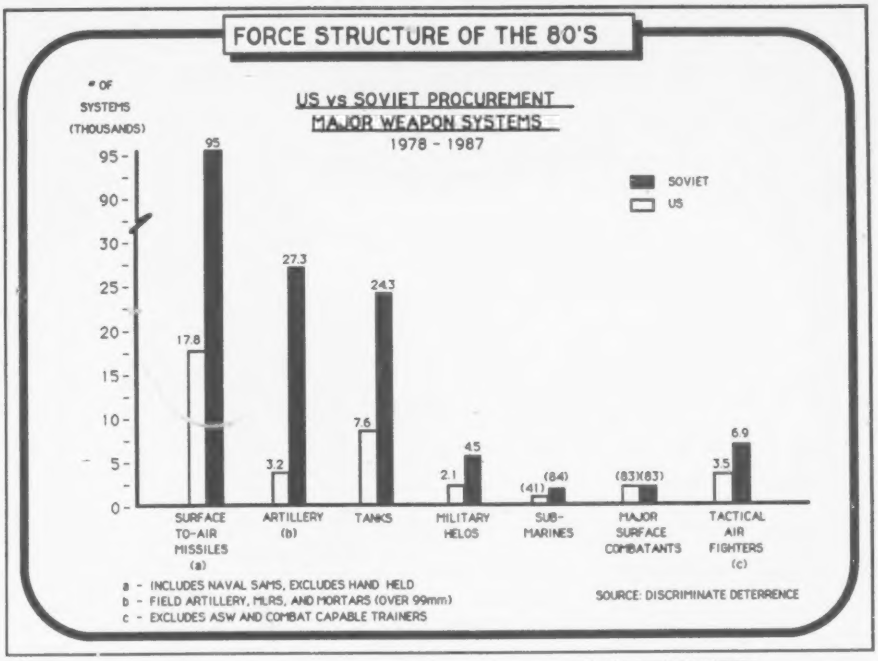
SOVIET FORMATION OF NEW ARMY CORPS

- LARGE POWERFUL COMBINED ARMS FORCE (>20,000 PERS)
- TANK, MECHANIZED INFANTRY, SELF-PROPELLED ARTILLERY, SELF PROPELLED AIR DEFENSE ARTILLERY, AND ATTACK HELICOPTERS
- TASK ORGANIZED FOR HIGH SPEED - DEEP OPERATIONS
- POSTURED FOR EARLY COMMITMENT
- FULFILLS HISTORIC NEED- OPERATIONAL MANEUVER GROUP

(Figure 3)

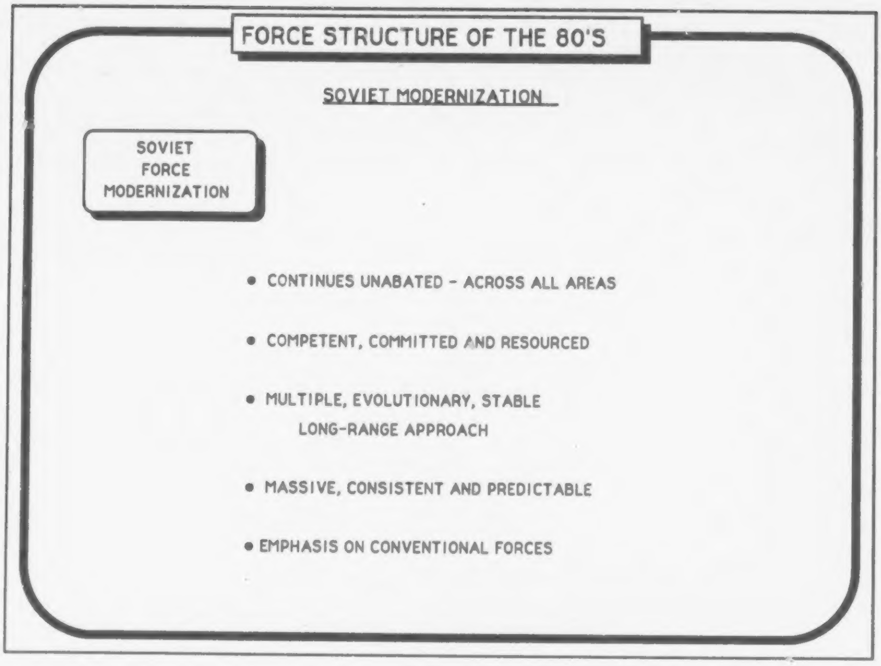
The Soviet attainment of parity with the United States in strategic nuclear weapons in the early 1970's began a shift in the burden of deterrence to other forces, especially conventional forces. Both General Galvin, the Supreme Allied Commander, Europe and General Vuono, the Army Chief of Staff have recently testified that the imbalance in conventional force capabilities in Europe in favor of the Warsaw Pact has been increasing due to the unprecedented modernization of Soviet forces.

The Soviets massive investment in warfighting capability has enabled them to outproduce us in major categories of equipment for land operations (Figure 4). During the past decade, it has turned out almost nine times as many artillery pieces, five times as many SAMS, over three times the number of tanks, and twice as many tactical air fighters and helicopters.



(Figure 4)

In sum, while the United States and its NATO Allies have made significant improvements, our adversary has worked harder and is now matching or exceeding us in the quality as well as quantity of his new ground forces equipment. (Figure 5)



FORCE STRUCTURE OF THE 80'S

SOVIET MODERNIZATION

SOVIET FORCE MODERNIZATION

- CONTINUES UNABATED - ACROSS ALL AREAS
- COMPETENT, COMMITTED AND RESOURCED
- MULTIPLE, EVOLUTIONARY, STABLE LONG-RANGE APPROACH
- MASSIVE, CONSISTENT AND PREDICTABLE
- EMPHASIS ON CONVENTIONAL FORCES

(Figure 5)

While the Soviet military threat to the United States and its Allies is greatest in areas contiguous to the U.S.S.R. and its Warsaw Pact Allies, our Army must also be prepared to confront the Soviets or their surrogates outside the Eurasian land mass. Soviets access to facilities outside the U.S.S.R., and continued development of capability for power projection requires a rapidly deployable force deterrence of their adventurisms. The Soviets sponsor an impressive military assistance program that provides military equipment, technical services, and, in some cases, direct operational support to 42 third world countries. The trend toward arms proliferation among nondemocratic countries is especially pronounced in the Middle East, where the war between Iran and Iraq has intensified, and states such as Libya and Syria devote enormous sums to arms buildup. U.S. Planners must also take into account the availability of increasingly advanced weapons throughout the third world. Regional arms buildups, which feature some of the world's most advanced weaponry, significantly raise the military, economic, and political costs of U.S. deterrence in the third world. U.S. contingency forces from the CENTCOM and the XVIII Airborne Corps may be quickly deployed to counter Soviet projection of military power anywhere in the world.

Another aspect of Soviet involvement in the third world is the use of surrogate military forces as a means to achieve Soviet political-ideological ends. In Angola, for example, Soviet backed Cuban troops are actively engaged in combat operations to protect a marxist regime. In many parts of the third world, severe economic problems, fragile governments, and regional rivalries persist. Regional instability and the risks of potential U.S. Army involvement are heightened by an ongoing arms buildup by many nondemocratic third world countries hostile to U.S. interests. Recent deployment of U.S. Light Forces from the 7th Infantry

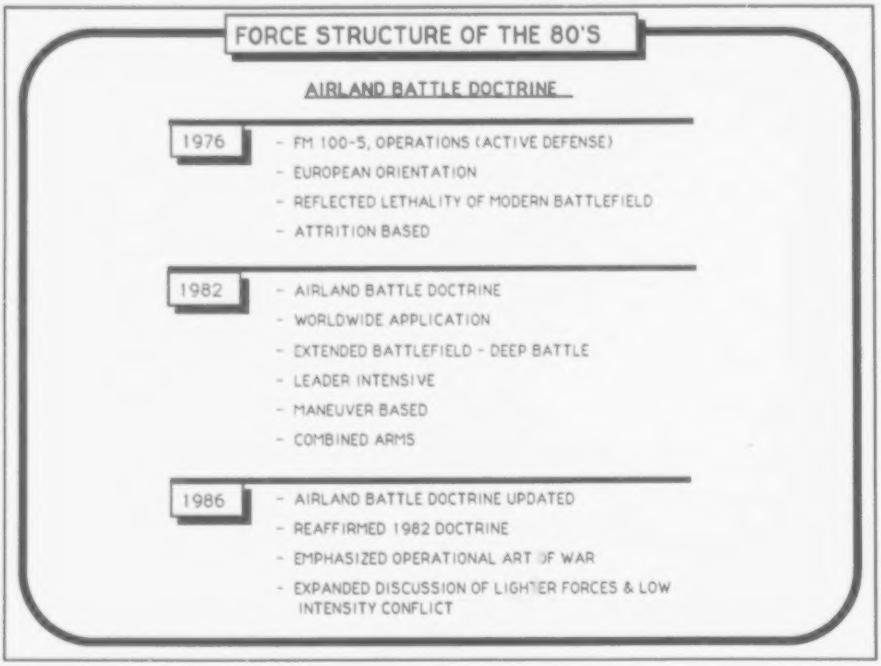
Division and the 82nd Airborne into Honduras are examples of the utility of U.S. Military Forces for dealing with Soviet surrogate forces or Soviet backed insurgencies.

Terrorism poses one of the more immediate challenges to U.S. security interests, obstructing our efforts to assist our Allies and friends, and directly threatening the lives of our civilian citizens and soldiers. The U.S. Special Operations Command is capable of rapidly deploying tailored forces anywhere in the world to protect U.S. interests and U.S. citizens from terrorism.

International terrorism by radical nations and political groups has become a daily concern to our overseas personnel and facilities. Since 1968, when we began keeping records, terrorists have killed 298 DoD affiliated persons, injured more than 360, and attacked 221 facilities. To protect itself, the Army must continue to improve its own security, as well as its ability to detect and counter terrorists.

DOCTRINE

In late 1970's, continuing Soviet force modernization and expansion, potential world-wide rapid response contingencies, personnel ceilings, and fiscal constraints combined to influence a reevaluation of the Army's fundamental warfighting doctrine. The resultant of this several year relook of your Army's doctrine was termed "Airland Battle" in recognition of the inherently joint nature of modern warfare. (Figure 6)



FORCE STRUCTURE OF THE 80'S

AIRLAND BATTLE DOCTRINE

1976
- FM 100-5, OPERATIONS (ACTIVE DEFENSE)
- EUROPEAN ORIENTATION
- REFLECTED LETHALITY OF MODERN BATTLEFIELD
- ATTRITION BASED

1982
- AIRLAND BATTLE DOCTRINE
- WORLDWIDE APPLICATION
- EXTENDED BATTLEFIELD - DEEP BATTLE
- LEADER INTENSIVE
- MANEUVER BASED
- COMBINED ARMS

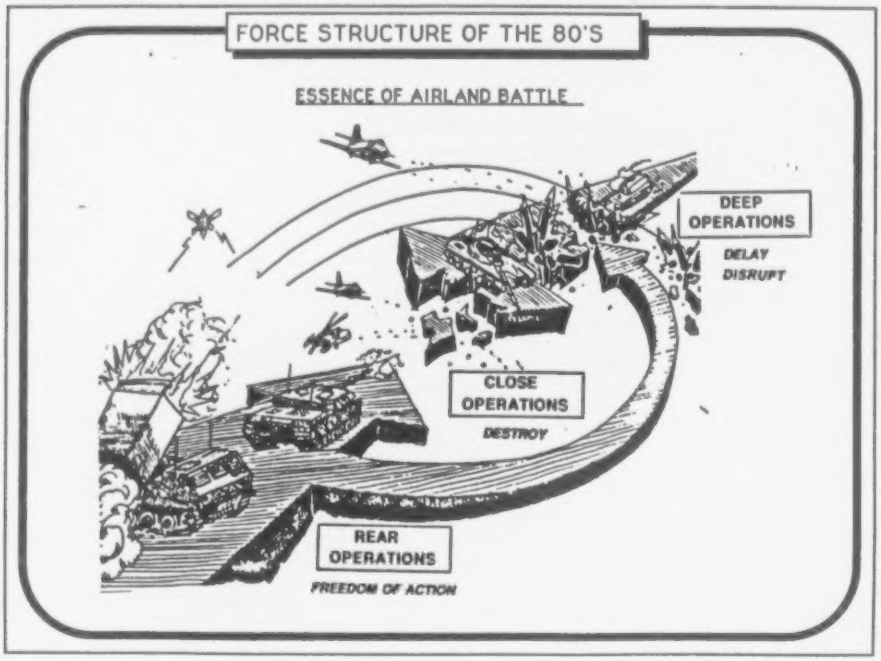
1986
- AIRLAND BATTLE DOCTRINE UPDATED
- REAFFIRMED 1982 DOCTRINE
- EMPHASIZED OPERATIONAL ART OF WAR
- EXPANDED DISCUSSION OF LIGHTER FORCES & LOW INTENSITY CONFLICT

(Figure 6)

Airland Battle's major contributions to American military thought are the reintroduction of the operational art as a key link between tactics and strategy, and the view of the unity of the battlefield which transcends services, echelons, and national military components.

Airland Battle seeks to exploit the full potential of U.S. and Allied Forces by synchronizing all available combat means to attain that end. Airland Battle doctrine is rooted in time-tested theories and principles, yet forward-looking and adaptable to changing technologies, threats, and missions. It is definitive enough to guide operations, yet versatile enough to accommodate a wide variety of worldwide situations.

Airland Battle emphasizes securing the initiative and exploiting it vigorously to defeat the enemy force. (Figure 7)



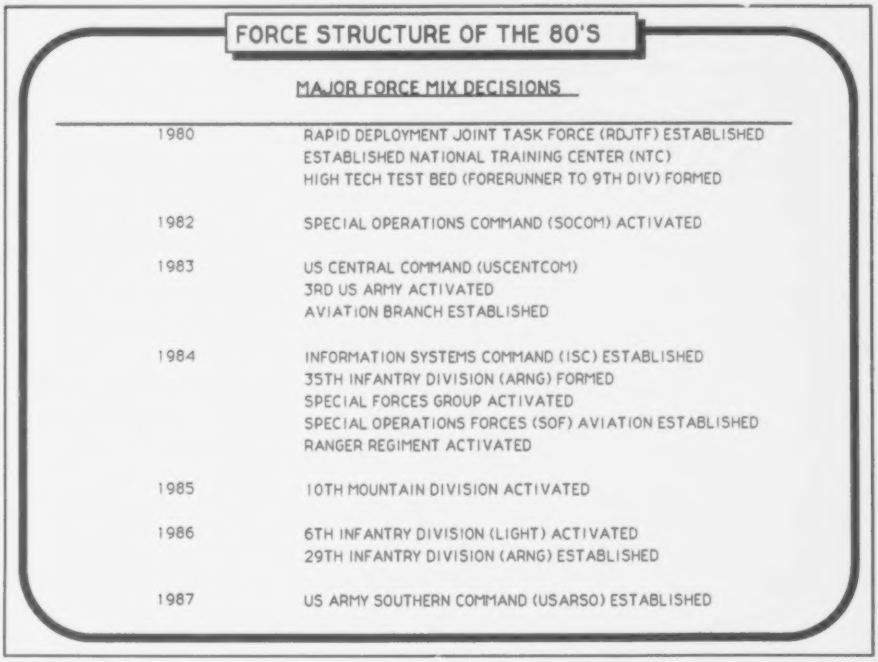
(Figure 7)

To ensure unity of effort and success in combat, all three operational areas (deep, close, and rear) on the battlefield are interrelated parts of one battle. Deep operations are designed to shape the conditions in which future close operations will be conducted. Close operations are characterized by the collision of forces where the battle is joined. It is in the arena of close operations where the winner or loser is determined. Rear operations are designed to assure freedom of maneuver, continuity of operations and uninterrupted service support. As a result of synchronized close, rear, and deep operations the friendly force can seize the initiative and make the best use of all available combat power. Airland Battle stresses that the campaign plan in a theater of operations must direct tactical events toward the theater's strategic goals in order to ensure success.

Our doctrine, Airland Battle, provides the guidelines to move into the future deliberately -- developing subordinate doctrine, designing forces and obtaining resources to meet worldwide contingencies. Recent initiatives (Army of Excellence) provide the United States with more agile forces capable of conducting sustained ground operations such as in NATO as well as lighter forces which can be rapidly deployed anywhere in the world. This equates to a more credible deterrence posture.

MAJOR FORCE DECISIONS

Chronology of major force structure decisions in the 80's (Figure 8) illustrates emphasis on the emerging threat (terrorism and low intensity conflict), continued growth of U.S.S.R. forces on the European continent as well as the growing awareness of and emphasis on jointness and what we have come to refer to as the "Total Army"-- the active/reserve/ and civilian components. Each member of the integrated team must share the burden of responsibility for the "Land Power" arm of our National Defense.



FORCE STRUCTURE OF THE 80'S

MAJOR FORCE MIX DECISIONS

1980	RAPID DEPLOYMENT JOINT TASK FORCE (RDJTF) ESTABLISHED ESTABLISHED NATIONAL TRAINING CENTER (NTC) HIGH TECH TEST BED (FORERUNNER TO 9TH DIV) FORMED
1982	SPECIAL OPERATIONS COMMAND (SOCOM) ACTIVATED
1983	US CENTRAL COMMAND (USCENTCOM) 3RD US ARMY ACTIVATED AVIATION BRANCH ESTABLISHED
1984	INFORMATION SYSTEMS COMMAND (ISC) ESTABLISHED 35TH INFANTRY DIVISION (ARNG) FORMED SPECIAL FORCES GROUP ACTIVATED SPECIAL OPERATIONS FORCES (SOF) AVIATION ESTABLISHED RANGER REGIMENT ACTIVATED
1985	10TH MOUNTAIN DIVISION ACTIVATED
1986	6TH INFANTRY DIVISION (LIGHT) ACTIVATED 29TH INFANTRY DIVISION (ARNG) ESTABLISHED
1987	US ARMY SOUTHERN COMMAND (USARSO) ESTABLISHED

(Figure 8)

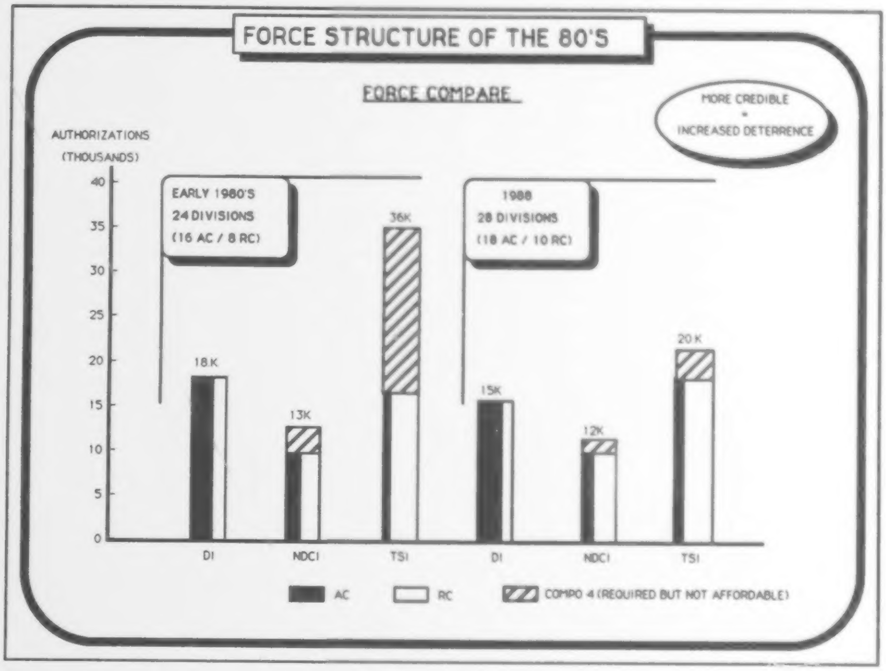
This recounts history, results of which were embodied in force design decisions. These decisions reflect a synthesis of changing threat, resource availability, and the state of the Army in 1980.

FORCE DESIGN

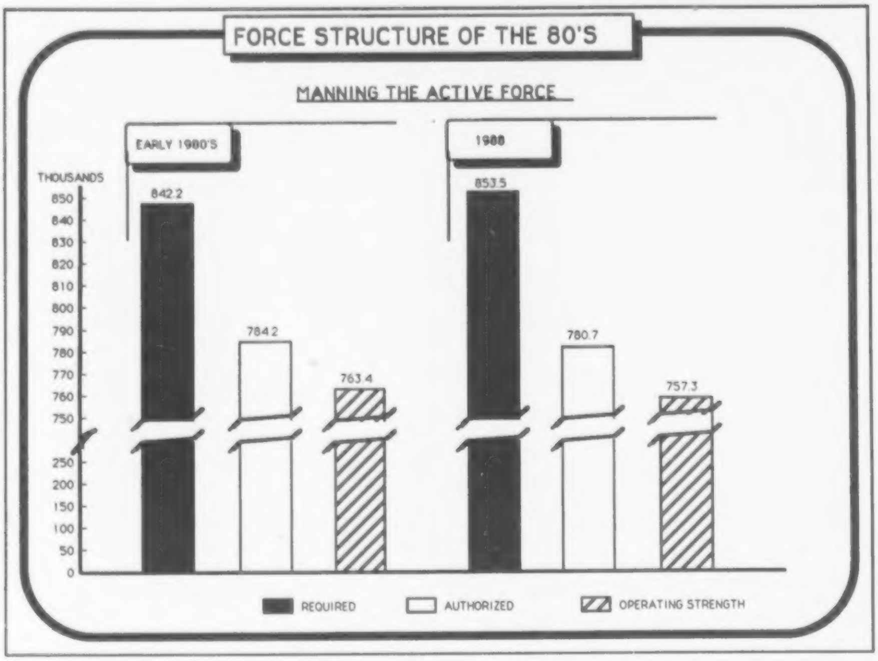
In the early 80's your Army was at a crossroads -- global responsibilities, increasing U.S.S.R. mid to high intensity (heavy) threat, growing threat of low intensity conflict in Central America, and terrorism introduced as an element of national power. Our forces were heavy to meet our primary threat to NATO, and designed to grow heavier to the preferred design we called "Division 86". Yet more was needed -- Special Operations Forces, Rangers, light easily deployable conventional forces. We were faced with the challenge of raising an even larger peace time Army with ever increasing costs of the volunteer force, requisite equipment for that force, and the continuum of modernization -- and associated costs -- to keep pace with the Soviet program discussed earlier.

We opted to restrain, indeed, we fixed the active end strength; shared responsibilities to an even greater degree with the reserve components -- we are not going to war without them; advantaged technology for the most efficient, least manpower intensive equipment; and put our best effort toward more efficient force structure design. We call that force the "Army of Excellence" (AOE).

The results are illustrated in figures 9 and 10. In the early 80's your 24 division Army -- 16 active, 8 reserve -- was essentially heavy, and the doctrinally required support structure unaffordable. We refer to that as the fourth component (COMPO 4) of the Army -- components 1, 2, and 3 being active, National Guard, and Army Reserve. And, in former Army Chief of Staff General Meyer's terms, it was hollow -- numbers of authorized positions significantly below their required levels (authorized level of organization - ALO), soldiers performing duties other than their primary responsibilities (borrowed military manpower), and personnel shortages manifested in our inability to recruit and retain quality personnel resulting in a shortfall we call "operating strength deviation" -- fewer soldiers than positions.



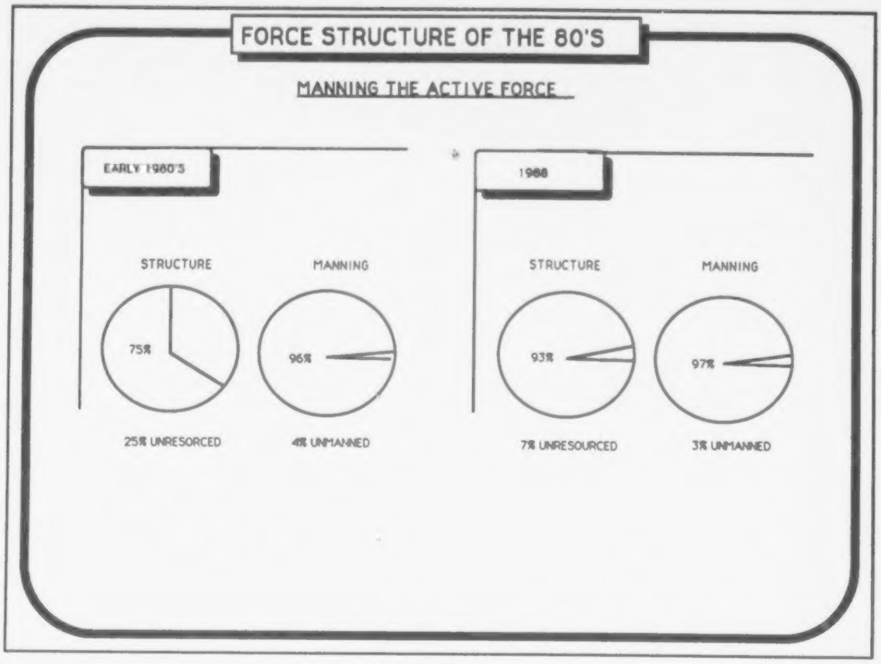
(Figure 9)



(Figure 10)

The challenge to resolve these shortfalls was arduous and the results -- AOE-- gratifying. The heavy divisions are still heavy -- and modern -- but more mobile/agile; their organic supporting structure is streamlined with more support provided by their next level of command -- the Corps. Light divisions were introduced -- the 25th and 7th Infantry Divisions redesigned, and the 6th, 10th and 29th Infantry Divisions (Light) activated. The 6th ID(L) was formed using the 172d Infantry Brigade in Alaska as its base and is rounded out with the 205th Infantry Brigade, USAR, Minnesota. The 10th ID(L) is also rounded out with the 42d Infantry Brigade, ARNG, New York. The 29th ID(L) is a National Guard division and was joined during the period by the activation of the 35 Infantry Division, ARNG, each formed by merging National Guard Separate Infantry Brigades.

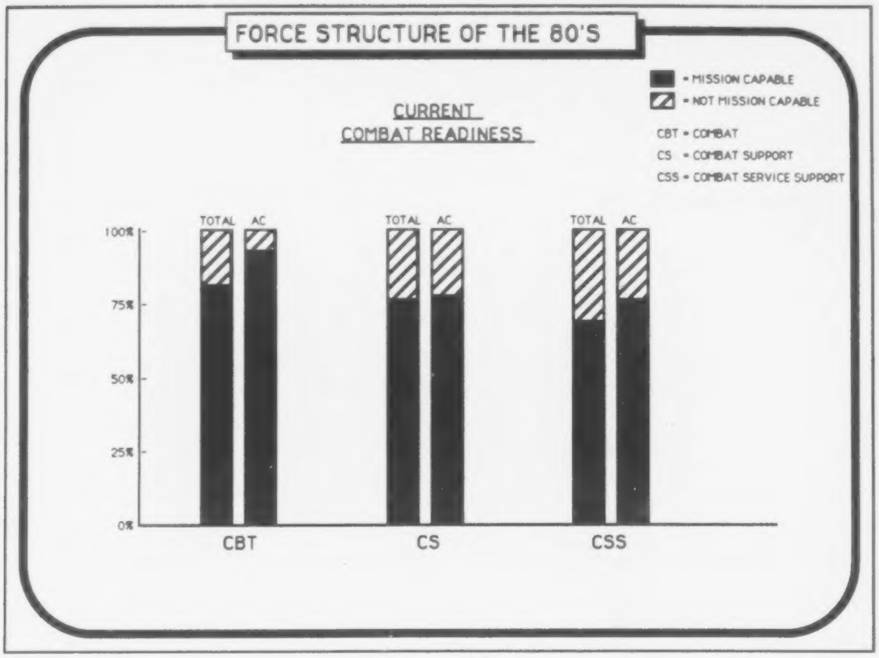
On average the size of the divisions was limited to approximately 15 thousand soldiers. The most dramatic improvements are found in the support force where manpower saving equipment, improved designs, overall numbers of units constrained by diligent review of wartime workload factors and enhanced unit capability, and growing host nation support agreements reduced the unmanned - COMPO 4 - structure significantly. Now we have both tooth -- divisions -- and required tail -- support structure. The overall improvements are illustrated in Figure 11 reflecting the structure shortfall (COMPO 4) reduced from 25% to 7% and active component manning shortfall from 10% to 3%.



(Figure 11)

Readiness

The question then becomes are these units capable of performing their mission? This is the best summarized in terms of the Army's procedures for measuring the readiness status of its units. Based on personnel, equipment, and training, commanders assess their units' readiness status periodically -- active, monthly; ARNG, quarterly; USAR, semiannually. In general, units are either mission capable or not. (Figure 12)

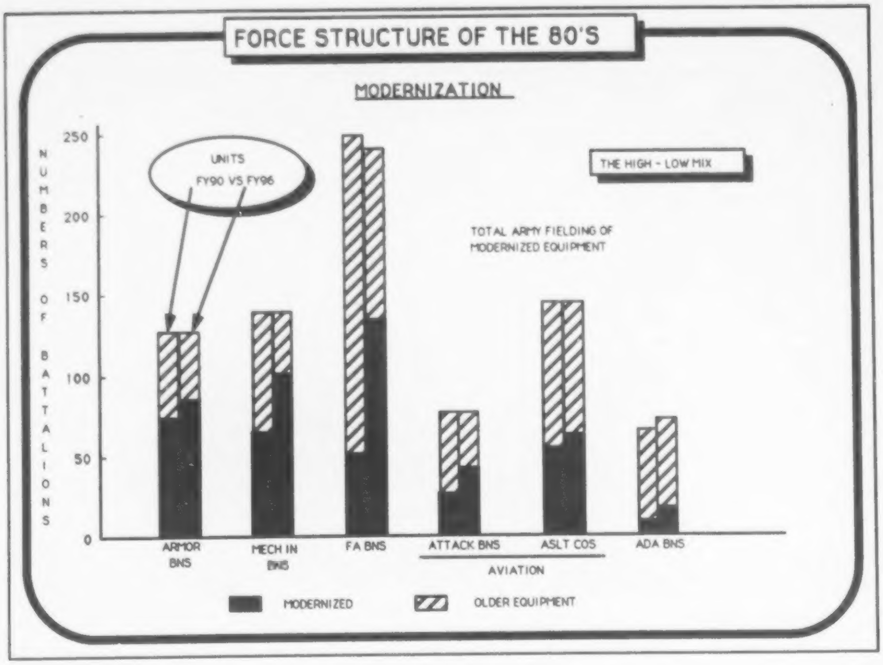


(Figure 12)

There are several points to be emphasized here. One, we have placed much greater reliance on the Reserve Component in our Total Army approach and by so doing have shrunk the unresourced force structure dramatically. Second, simultaneous with this growth in Reserve Components we have continued to focus on fielding capable units. Based on CINC's warfighting priorities, the early deploying units are more capable than late deploying units. Third, we are not finished. Thirty to forty percent of our support forces are still not mission capable, principally because of equipment shortages, and some military occupational specialty qualification. I might add, absent the requisite equipment to do the job, the challenge of training and retaining qualified reservists is amplified.

PROCUREMENT

Your Army's procurement progress is best illustrated in terms of warfighting capability -- that is, the "battalion". (Figure 13)

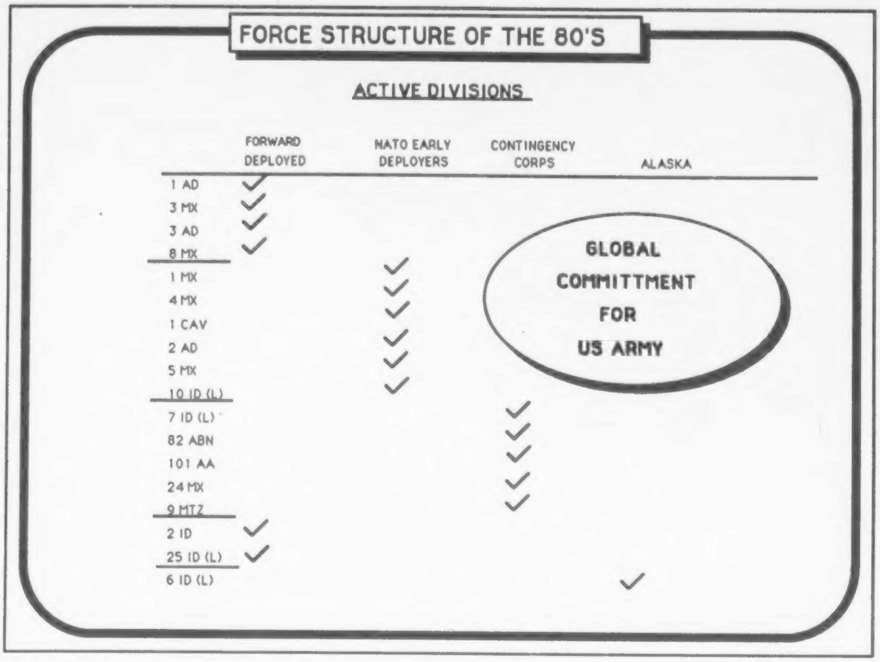


(Figure 13)

We have made great strides in fielding the most modern systems. And with the program we are preparing to submit to the Office, Secretary of Defense, you can see the progress would continue. Modernization is a never ending process -- the threat and technology are ever evolving. We need your continued support to meet this challenge.

EMPLOYMENT

Figure 14 reflects the global responsibilities inherent in executing the national military strategy and illustrates the focus of your active divisions. Ready, modern, efficiently designed forces are really only attributes of the force. Its purpose is to deter and, if called upon, to fight and win.



FORCE STRUCTURE OF THE 80'S

ACTIVE DIVISIONS

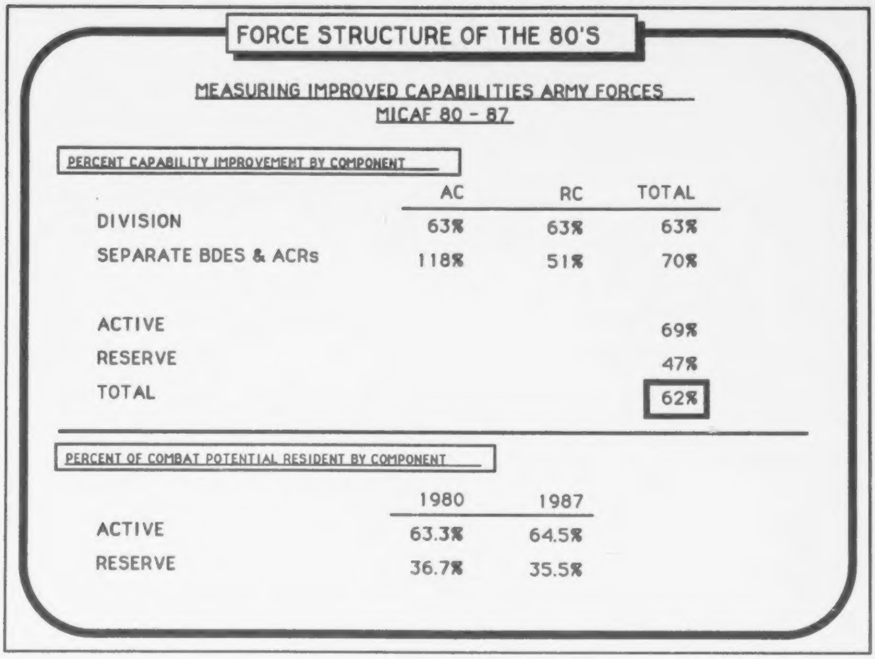
	FORWARD DEPLOYED	NATO EARLY DEPLOYERS	CONTINGENCY CORPS	ALASKA
1 AD	✓			
3 MX	✓			
3 AD	✓			
8 MX	✓			
1 MX		✓		
4 MX		✓		
1 CAV		✓		
2 AD		✓		
5 MX		✓		
10 ID (L)		✓		
7 ID (L)			✓	
82 ABN			✓	
101 AA			✓	
24 MX			✓	
9 MTZ			✓	
2 ID	✓			
25 ID (L)	✓			
6 ID (L)				✓

GLOBAL
COMMITTMENT
FOR
US ARMY

(Figure 14)

CAPABILITY

One of the Army's measures for assessing its forces is the "Measuring Improved Capability of Army Forces" (MICAF) study. Based on modernized systems MICAF measures capability improvements attributable to those changes in major combat units (divisions, separate brigades, armored cavalry regiments). Since 1980 the MICAF results indicate an overall improvement of 62%.



FORCE STRUCTURE OF THE 80'S

MEASURING IMPROVED CAPABILITIES ARMY FORCES
MICAF 80 - 87

PERCENT CAPABILITY IMPROVEMENT BY COMPONENT

	AC	RC	TOTAL
DIVISION	63%	63%	63%
SEPARATE BDES & ACRs	118%	51%	70%
ACTIVE			69%
RESERVE			47%
TOTAL			62%

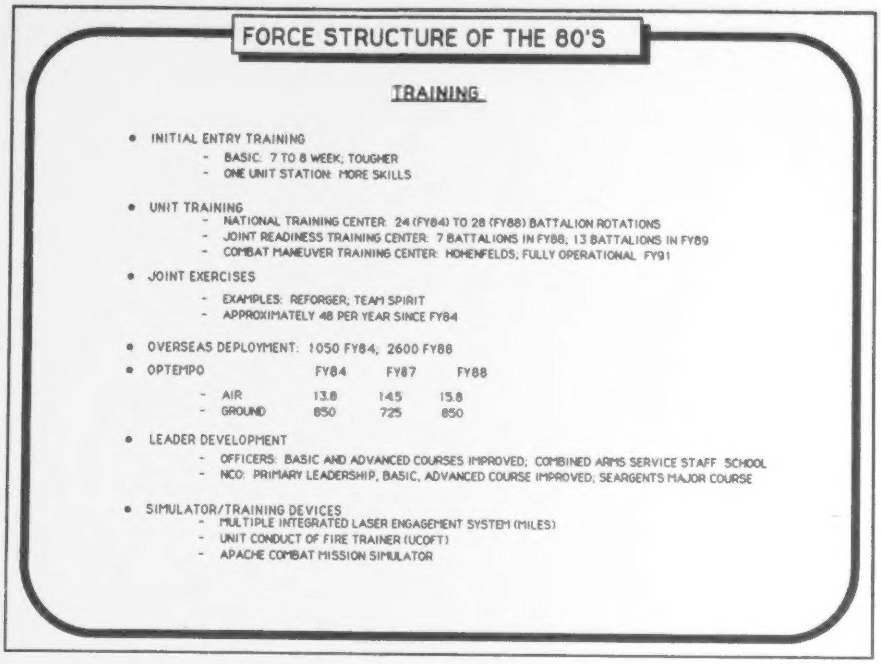
PERCENT OF COMBAT POTENTIAL RESIDENT BY COMPONENT

	1980	1987
ACTIVE	63.3%	64.5%
RESERVE	36.7%	35.5%

(Figure 15)

TRAINING

Training is the Army's top priority. In fact, 1988 is the Army's "year of training". We look at training across an entire spectrum since 1980 -- from individual, through unit, to major force training in joint exercises.



FORCE STRUCTURE OF THE 80'S

TRAINING

- INITIAL ENTRY TRAINING
    - BASIC: 7 TO 8 WEEK; TOUGHER
    - ONE UNIT STATION: MORE SKILLS
- UNIT TRAINING
    - NATIONAL TRAINING CENTER: 24 (FY84) TO 28 (FY88) BATTALION ROTATIONS
    - JOINT READINESS TRAINING CENTER: 7 BATTALIONS IN FY88; 13 BATTALIONS IN FY89
    - COMBAT MANEUVER TRAINING CENTER: HOHENFELDS; FULLY OPERATIONAL FY91
- JOINT EXERCISES
    - EXAMPLES: REFORGER; TEAM SPIRIT
    - APPROXIMATELY 48 PER YEAR SINCE FY84
- OVERSEAS DEPLOYMENT: 1050 FY84; 2600 FY88
- OPTEMPO

OPTEMPO	FY84	FY87	FY88
- AIR	13.8	14.5	15.8
- GROUND	850	725	850

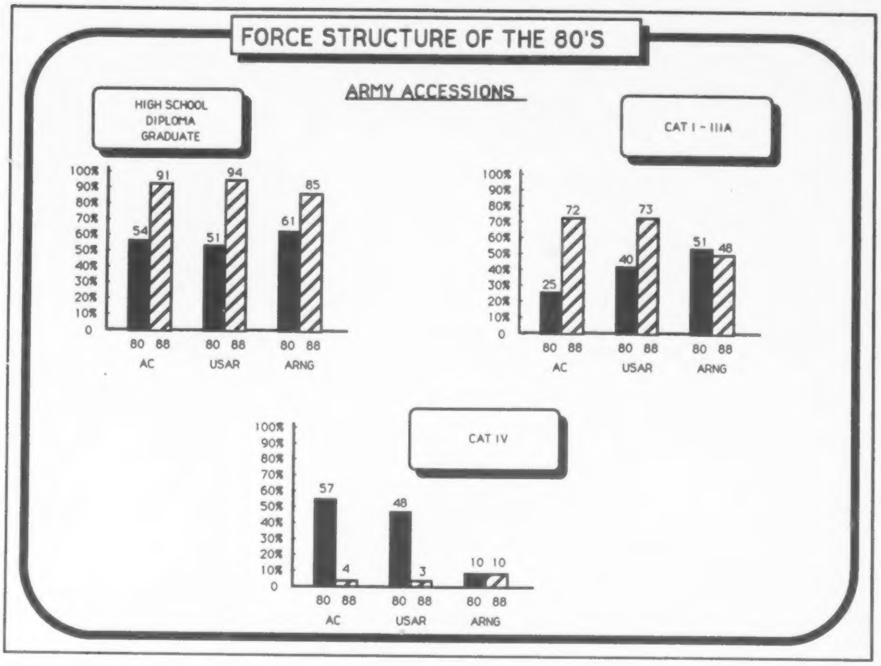
- LEADER DEVELOPMENT
    - OFFICERS: BASIC AND ADVANCED COURSES IMPROVED; COMBINED ARMS SERVICE STAFF SCHOOL
    - NCO: PRIMARY LEADERSHIP, BASIC, ADVANCED COURSE IMPROVED; SEARGENTS MAJOR COURSE
- SIMULATOR/TRAINING DEVICES
    - MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM (MILES)
    - UNIT CONDUCT OF FIRE TRAINER (UCOFT)
    - APACHE COMBAT MISSION SIMULATOR

(Figure 16)

Initial entry training increased emphasis on tougher, more challenging skills with consistently high standards. Unit training leaped forward with development of combat training centers. Overseas deployment of Reserve Component units for barometers of Army training related to mission capability are: flying hours per crew for month (air OPTEMPO) -- and vehicle miles per year (ground OPTEMPO) -- both improved from FY84. Equally important is our emphasis on leader development to train warriors that can fight and win. Quality training has a direct effect on warfighting and combat capability. Our programs are designed to train both units and individuals. These programs advantage technology to sustain combat readiness with decreased operational costs by employing simulators and other training devices, for example, the Multiple Integrated Laser Engagement System (MILES), Unit Conduct of Fire Trainer (UCOFT) for Abram tank and Bradly fighting vehicle. And the combat mission simulator for the apache attack helicopter.

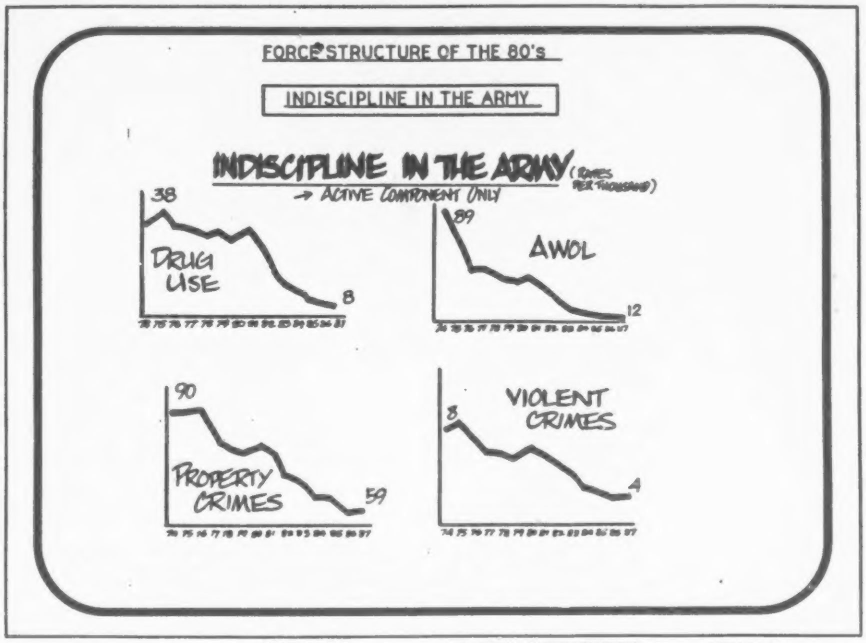
MANPOWER

Notwithstanding doctrine, design, threat, modernized equipment, and various measures of capability, the heart of your Army is its people. To recruit and retain quality Officers, NCO's, and soldiers is one of the Army's top priorities. Over the last eight years, with your support, we have met this challenge. Quality can be measured in terms of new soldiers who are High School Diploma Graduates (HSDG), and in terms of test score categories I-IIIA or IV (Figure 17).



(Figure 17)

Quality soldiers are not a luxury; they are essential. We know that quality breeds on itself. These young men and women are dedicated and are always looking for more effective and efficient ways of meeting mission requirements. Indiscipline indicators are at an all time low. (Figure 18)


FORCE STRUCTURE OF THE 80's

INDISCIPLINE IN THE ARMY

(Figure 18)

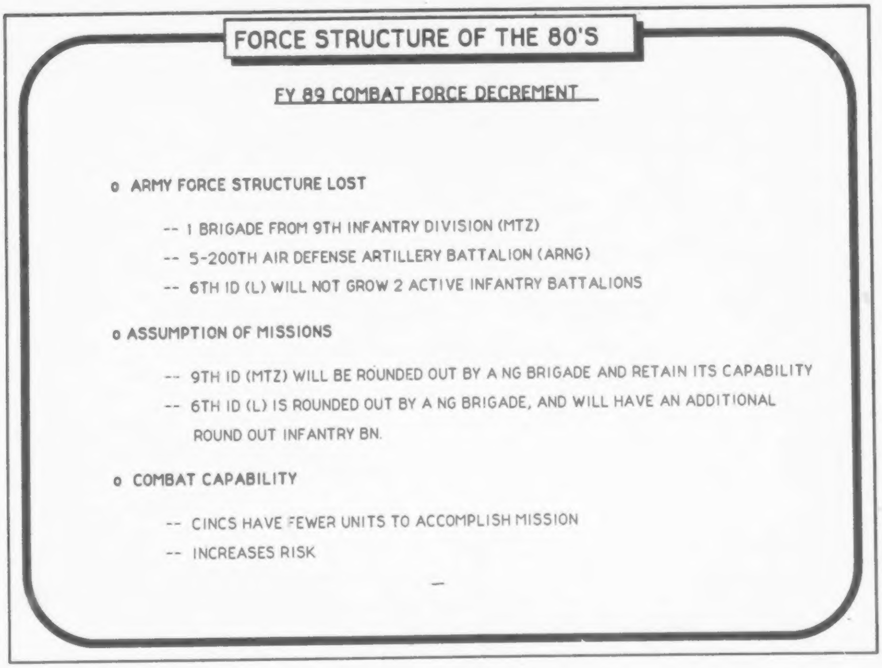
A significant portion of the force structure is our civilian work force. They provide continuity and stability to our total force. This allows our soldiers to perform the tasks of soldiering where they mean the most -- in the unit. We depend on our civilian members to perform critical support functions to the Army warfighting mission. Civilians comprise 75% of base operations, 92% of logistics, 81% of research and development, and 43% of medical personnel. Between FY81 and FY87 the civilian force grew by over 40k -- from 372k to 413k. Over a third of this growth was to compensate for borrowed military manpower (14.3K) -- put the soldier back in a soldier's job -- and support the Reserve Component (National Guard, 5.1K; U.S. Army Reserve technician, 1k). The balance was largely attributable to converting military positions to civilian where practicable; substitution (5.3K), force modernization (4.4K), and temporary employees (4.7K). Since then the civilian structure has remained relatively stable, as in the active military, seeking manpower saving initiatives to offset increasing requirements.

1989 AMENDED BUDGET

The progress enjoyed through the 80's was necessary and proper, and, as I said, is not yet complete. We understand and appreciate the fiscal environment and are obligated to continue to make the most of increasingly scarce resources. To that end, when directed to amend our FY89 budget, we did so in the most responsible way. As I discuss our initiatives I will emphasize that, while we have balanced our reductions across the entire Army to minimize the direct impact on any particular program, in fact a 6% reduction is clearly a major change.

MAJOR FORCE STRUCTURE CHANGES

The major force structure changes attributable to the amended FY89 budget are summarized in the next several figures. First I'll discuss the active component with emphasis on the combat force decrement. (Figure 19)



FORCE STRUCTURE OF THE 80'S

FY 89 COMBAT FORCE DECREMENT

o ARMY FORCE STRUCTURE LOST

-- 1 BRIGADE FROM 9TH INFANTRY DIVISION (MTZ)

-- 5-200TH AIR DEFENSE ARTILLERY BATTALION (ARNG)

-- 6TH ID (L) WILL NOT GROW 2 ACTIVE INFANTRY BATTALIONS

o ASSUMPTION OF MISSIONS

-- 9TH ID (MTZ) WILL BE ROUNDED OUT BY A NG BRIGADE AND RETAIN ITS CAPABILITY

-- 6TH ID (L) IS ROUNDED OUT BY A NG BRIGADE, AND WILL HAVE AN ADDITIONAL ROUND OUT INFANTRY BN.

o COMBAT CAPABILITY

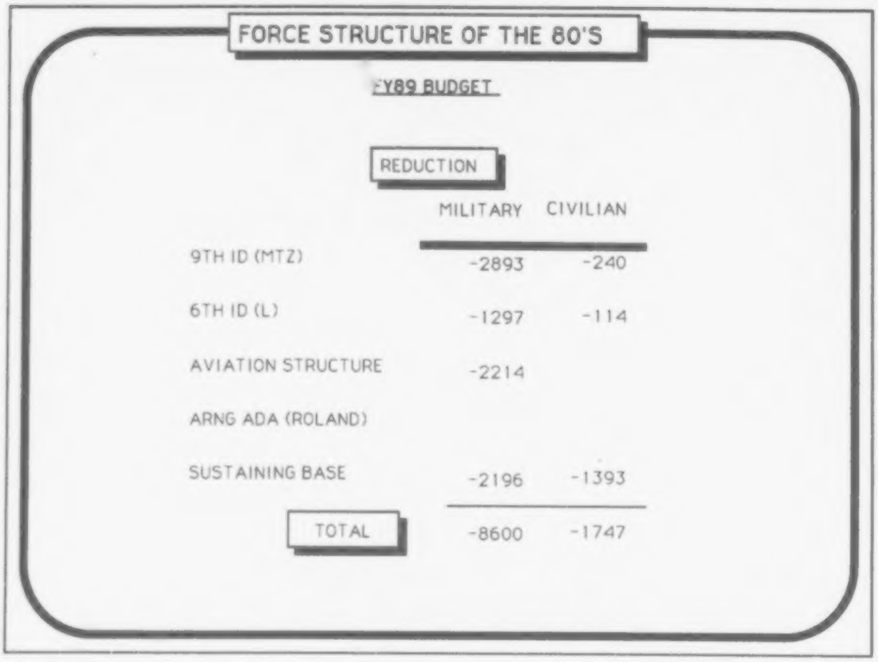
-- CINCS HAVE FEWER UNITS TO ACCOMPLISH MISSION

-- INCREASES RISK

(Figure 19)

The 9th Infantry Division (Motorized) was selected to inactivate one brigade for a number of reasons. Reduced funding would not support development and field the Armored Gun System which is the centerpiece of the design of the 9th ID. Also recall that the increased deterrent capability that has evolved through this decade is reflected in increased investment in tactical forces -- active component, guard, and reserve component. While designs improved, allowing us to get more from our available resources, the increase in the tactical forces' active structure with a fixed active end strength could come from only one source -- our non-tactical, or TDA, force. We think we are at or about our minimum prudent resourcing levels there, and to cut our active end strength we had to turn to tactical structure to pay part of the bill.

These and other active component force structure reductions are summarized in figure 20.



FORCE STRUCTURE OF THE 80'S

FY89 BUDGET

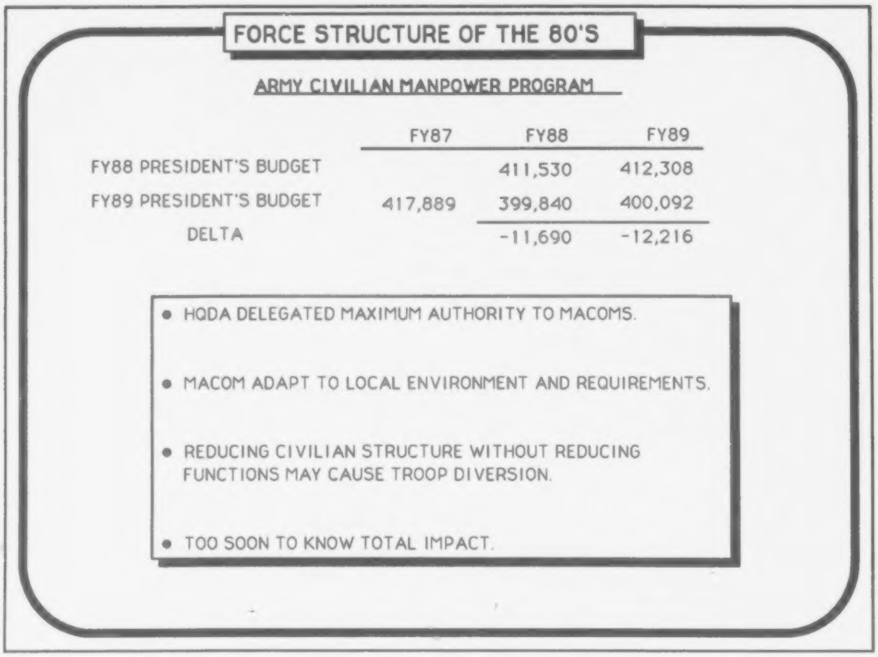
	REDUCTION	
	MILITARY	CIVILIAN
9TH ID (MTZ)	-2893	-240
6TH ID (L)	-1297	-114
AVIATION STRUCTURE	-2214	
ARNG ADA (ROLAND)		
SUSTAINING BASE	-2196	-1393
TOTAL	-8600	-1747

(Figure 20)

In addition to inactivating the 5-200 Air Defense Battalion (ROLAND), changes to the reserve component are limited to freezing their end strengths at the FY88 levels for one year.

The civilian reductions, in this instance, are tied to the support no longer required in the smaller active 6ID(L) and 9ID (MTZ), or were identified merely to generate revenues to be applied elsewhere.

Figure 21 reflects additional civilian reductions, FY87 through FY89, attributable to the amended budget, and the guidance we provided our major commanders to affect these changes.



FORCE STRUCTURE OF THE 80'S

ARMY CIVILIAN MANPOWER PROGRAM

	FY87	FY88	FY89
FY88 PRESIDENT'S BUDGET		411,530	412,308
FY89 PRESIDENT'S BUDGET	417,889	399,840	400,092
DELTA		-11,690	-12,216

- HQDA DELEGATED MAXIMUM AUTHORITY TO MACOMS.
- MACOM ADAPT TO LOCAL ENVIRONMENT AND REQUIREMENTS.
- REDUCING CIVILIAN STRUCTURE WITHOUT REDUCING FUNCTIONS MAY CAUSE TROOP DIVERSION.
- TOO SOON TO KNOW TOTAL IMPACT.

(Figure 21)

Commanders have not yet had their FY88 funding levels long enough to complete the process of determining all the personnel actions needed this year. They must, however, notify Headquarters, Department of the Army, before taking either reduction-in-force or furlough actions, and are expected to have exhausted other less severe options before initiating these actions.

WHY WERE THESE SELECTED?

While I have already discussed the rationale for the selection of most of these changes I would emphasize that they are not based on any change in doctrine or strategy. Indeed, we are walking a fine line, recognizing the need for enhanced conventional deterrent capability while fiscal realities take us on a divergent course. The mission, strategy, and policies remain unchanged. Hence the risk -- even a mere perceptive by our adversaries that we are less committed -- is greater, notwithstanding our attempts to minimize the impact.

MANPOWER IMPACTS?

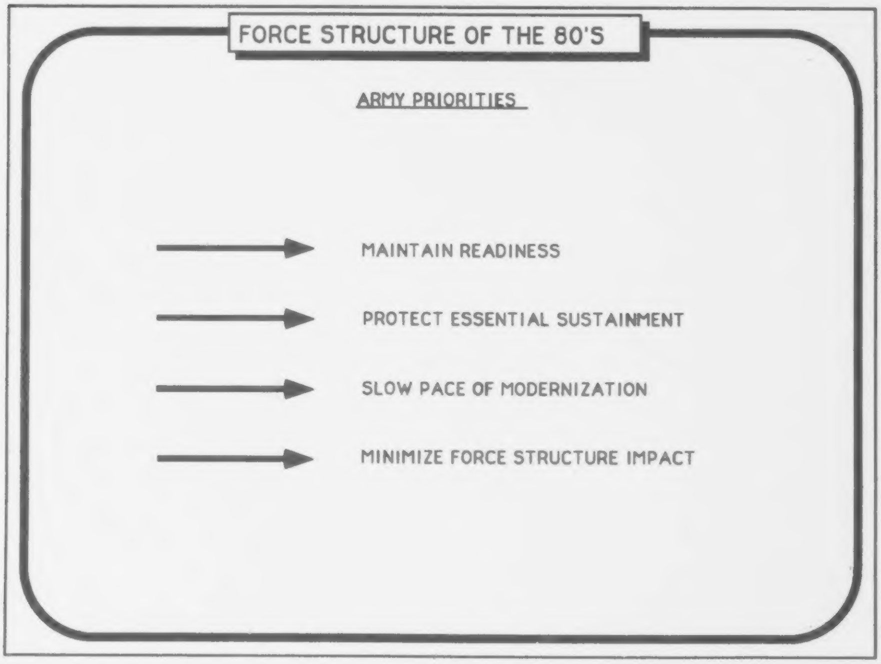
Because the Army acted responsibly in reducing its military end strength by 8600, spreading the reduction over both its combat and non-combat force, no specific program or function is jeopardized. The net result, however, is less combat capability, hence greater risk.

PROCUREMENT IMPACTS?

The overall reductions in FY89 budget reflect a minus 6.3% real growth from FY88 to FY89. The smaller amount of systems procurement will be integrated into the force based on unit priorities -- equipment assigned to units earmarked for inactivation will be displaced to other units according to the Army prioritization process. Modernization equipment not yet fielded will be reprogrammed according to the same procedures -- always with the underlying theme of minimizing the impact overall on the nation's land power.

CONCLUSION

In applying the decrements associated with the amended FY89 budget we established certain priorities to protect our ability to execute the strategy. (Figure 22)



FORCE STRUCTURE OF THE 80'S

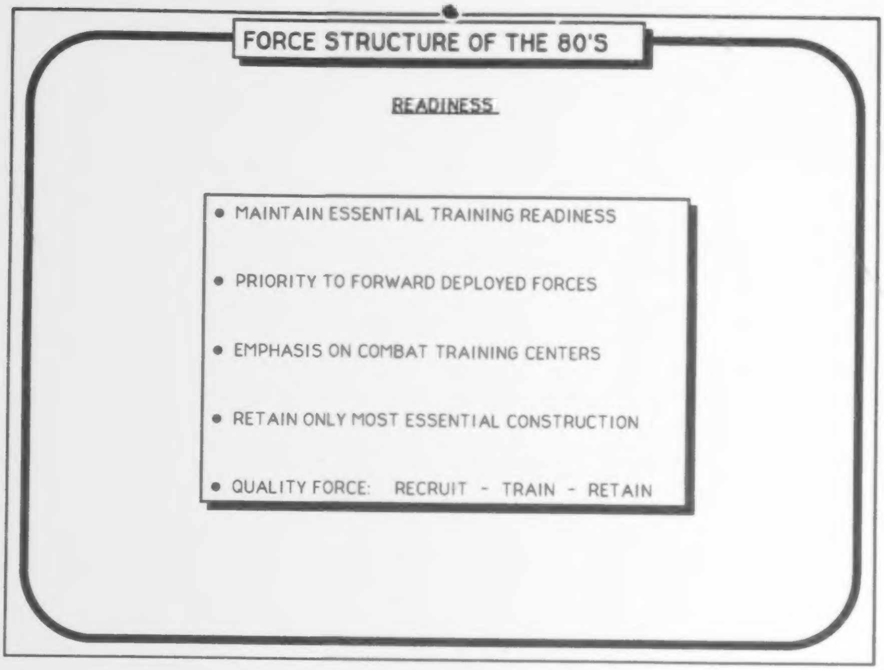
ARMY PRIORITIES

- MAINTAIN READINESS
- PROTECT ESSENTIAL SUSTAINMENT
- SLOW PACE OF MODERNIZATION
- MINIMIZE FORCE STRUCTURE IMPACT

(Figure 22)

The next series of figures summarize what we did, and some associated actions.

We must maintain our deterrent and warfighting capability. Quality soldiers, leaders, and training are the base of deterrence. (Figure 23)



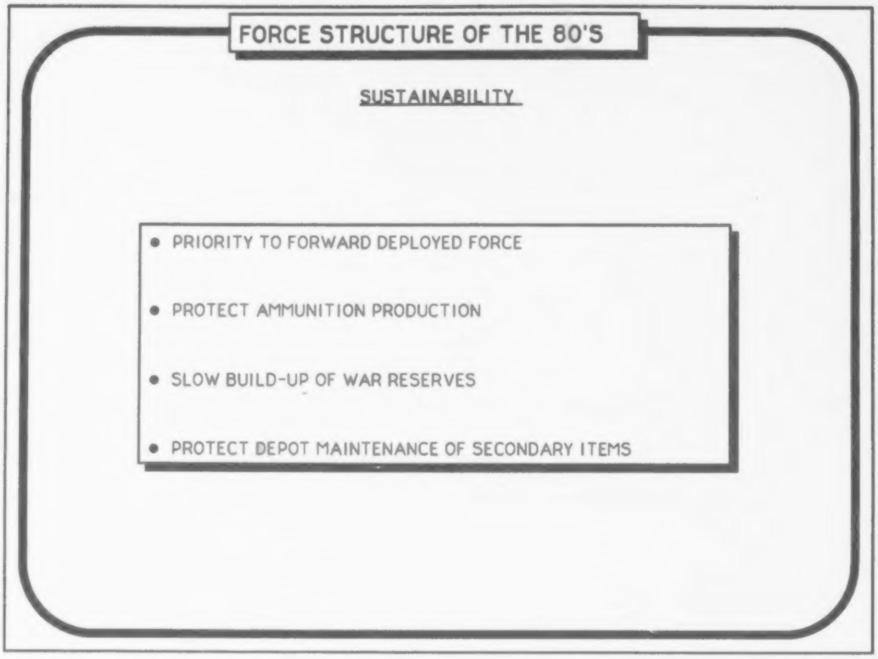
FORCE STRUCTURE OF THE 80'S

READINESS

- MAINTAIN ESSENTIAL TRAINING READINESS
- PRIORITY TO FORWARD DEPLOYED FORCES
- EMPHASIS ON COMBAT TRAINING CENTERS
- RETAIN ONLY MOST ESSENTIAL CONSTRUCTION
- QUALITY FORCE: RECRUIT - TRAIN - RETAIN

(Figure 23)

We must continue to maintain momentum of our key sustainment programs. Ability to sustain is as important as the ability to fight and win the first battle. (Figure 24)



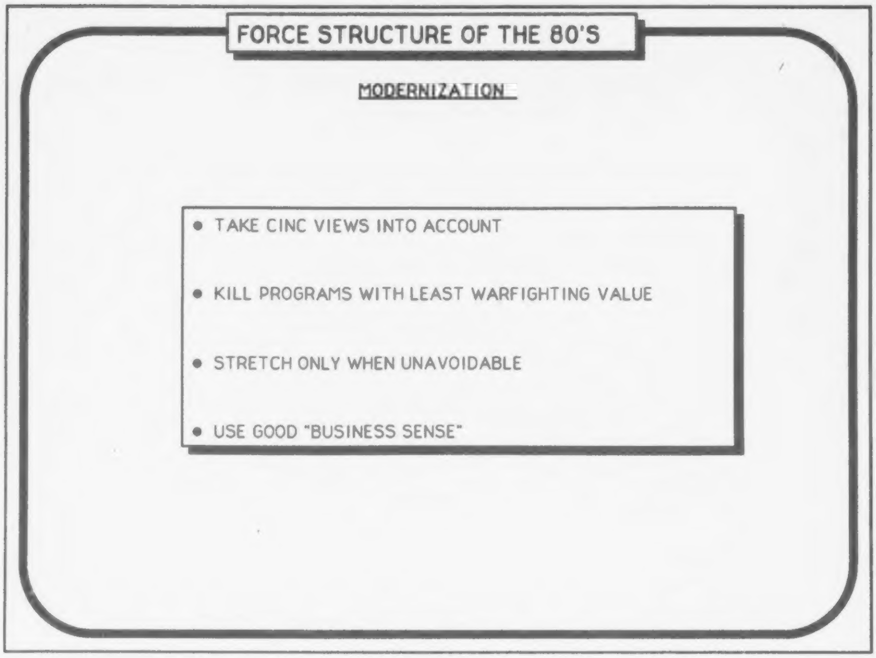
FORCE STRUCTURE OF THE 80'S

SUSTAINABILITY

- PRIORITY TO FORWARD DEPLOYED FORCE
- PROTECT AMMUNITION PRODUCTION
- SLOW BUILD-UP OF WAR RESERVES
- PROTECT DEPOT MAINTENANCE OF SECONDARY ITEMS

(Figure 24)

We felt it also vital to protect essential modernization programs and research, development tests, and evaluation. Our best fielded capability must convincingly overmatch the threat, present and future. (Figure 25)



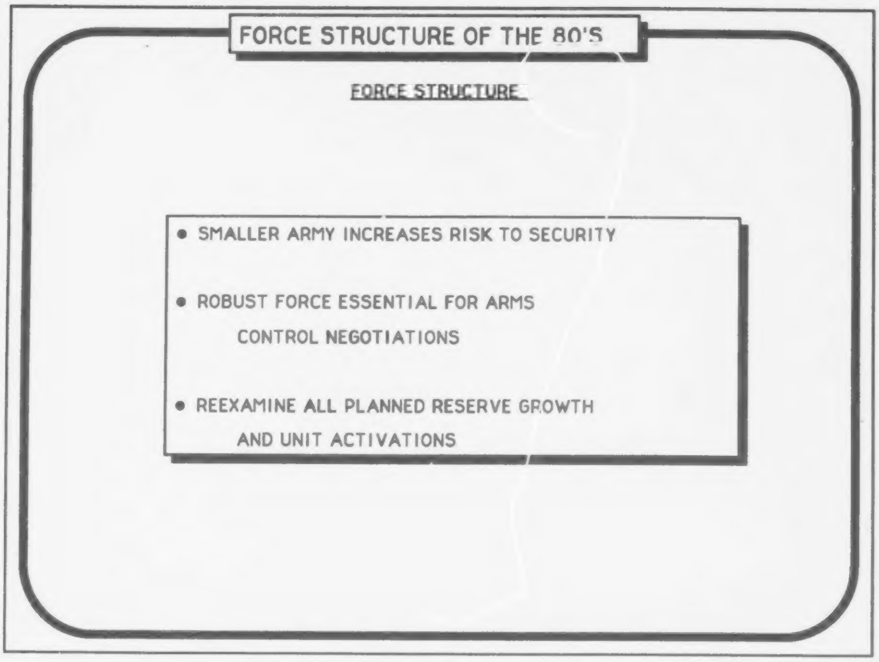
FORCE STRUCTURE OF THE 80'S

MODERNIZATION

- TAKE CINC VIEWS INTO ACCOUNT
- KILL PROGRAMS WITH LEAST WARFIGHTING VALUE
- STRETCH ONLY WHEN UNAVOIDABLE
- USE GOOD "BUSINESS SENSE"

(Figure 25)

Finally, force structure is fundamental. We examined the entire structure and took the most prudent course of action. The overall size of the force is a function of the strategy; maintaining quality is essential. (Figure 26)



FORCE STRUCTURE OF THE 80'S

FORCE STRUCTURE

- SMALLER ARMY INCREASES RISK TO SECURITY
- ROBUST FORCE ESSENTIAL FOR ARMS CONTROL NEGOTIATIONS
- REEXAMINE ALL PLANNED RESERVE GROWTH AND UNIT ACTIVATIONS

(Figure 26)

Gentlemen, it has been my pleasure to address this committee on one of the Army's "good news" stories - Force Structure of the 80's. We have conserved manpower by maintaining a fixed end strength and advantaged technology and improved force designs. We have invested wisely in modernization, steadily increased the capability of our forces. Acquired and retained the best quality soldiers in our history. And, while the number of divisions have grown in the past decade from 24 to 28, I hasten to point out they still provide less than half the number of divisions which the JCS state is required for the minimum risk force. We must continue to respond to the Soviet initiatives in Europe and to the ever present threat of terror and low intensity conflict, as we absorb a major adjustment to our budget with minimum impact on our warfighting capability. It has not been easy and we are not through. We need your continued support for your soldiers to provide them the equipment, technology, and leadership to make them a force with credible deterrence that is based upon a genuine warfighting capability.

WILSON ALLEN SHOFFNER
Major General, United States Army

Major General Wilson A. Shoffner is the Assistant Deputy Chief of Staff for Operations and Plans, Force Development, Department of the Army, Washington, DC. In that capacity, General Shoffner is responsible for Requirements and Force Development of the total Army, integrating the changes into the force and modernization to deal with the current and projected threat.

General Shoffner was born in Ryan, Oklahoma on 28 March 1938. He is a graduate of Oklahoma State University with a Bachelor of Science in mechanical engineering. He holds a Master of Science in International Relations from George Washington University. Commissioned a second lieutenant in Field Artillery from the ROTC program, he entered the service in 1961 from Oklahoma. His professional training and development include attendance at the Naval School of Command Staff and the Army War College.

General Shoffner has had a variety of assignments related to Force Development in the past 10 years. Key assignments include Chief of the Doctrine Team, Field Artillery Center; Director of Studies and Analysis for Combat Developments at HQ TRADOC; Chief of Staff, U.S. Army Combined Arms Center, Ft Leavenworth, KS; Director of the Department of Army Airland Battle Deep Attack Programs Special Task Force; and Deputy Chief of Staff for Doctrine, HQ TRADOC, Ft Monroe, VA.

A variety of command and staff duties with troops have provided a broad base of experience for how-to-fight the Army's Airland Battle Doctrine with today's modernized forces. His most recent troop assignment was Assistant Division Commander of the 1st Cavalry Division at Ft Hood, Texas. Previous troop assignments include Commander, 214th FA Brigade at Fort Sill, OK; G3 Operations, V Corps in Germany; CDR 3d Bn, 79th FA, in Germany; Executive Officer and S3 of 2d Bn, 4th FA in Vietnam and S3 of 1st Bn, 11th Arty in Vietnam.

General Shoffner's decorations include the Legion of Merit (with four Oak Leaf Clusters), the Bronze Star Medal (with three Oak Leaf Clusters), the Meritorious Service Medal (with Oak Leaf Cluster), several Air Medals with "V" Device, and the Army Commendation Medal (with four Oak Leaf Clusters). He also wears the Army General Staff Identification Badge and other service medals.

He is married to the former Beverly Beauchamp of Lawton, Oklahoma. They have two sons who are cadets at the United States Military Academy; Allen (USMA 88) and Andy (USMA 90).

Senator JOHNSTON. Thank you, General Shoffner.
General Mundy?

U.S. MARINE CORPS

STATEMENT OF LT. GEN. C.E. MUNDY, JR.

READINESS

General MUNDY. Thank you, Mr. Chairman. Good morning to the distinguished members. You have my statement, and if that can be inserted for the record, I will be very brief.

I, too, think the bottom line of my testimony will be that the Marine Corps, in dealing with the fiscal year 1989 budget, has focused on continued readiness. I would like to just tell you a little bit about what that means in practical terms.

As we sit here today there are about 21,000 Marines deployed away from their home bases, predominantly in amphibious ships of the various fleets around the world. Fifteen thousand of those are either off the shore of South Korea or just moving into South Korea, with about 112 Marine aircraft dedicated to close air support of Marine forces.

A few thousand miles to the west, there are 400 Marines embarked in an amphibious ship as a contingency force with the naval forces in the Persian Gulf.

A few more thousand miles to the west there are about 2,000 Marines embarked in amphibious shipping with the U.S. 6th Fleet. They have just completed a major exercise in Spain.

The force that they relieved, with about 23 helicopters and 6 embarked AV-8B aircraft are unloading today in Morehead City, having just returned from their 6-month deployment, also in the Mediterranean.

As we speak, entering the Panama Canal en route back to its west coast base is a helicopter assault carrier with 700 Marines, associated aircraft, and combat equipment. They are returning home from their time in the Persian Gulf. They are about 4 or 5 days out of homeport, but if they are needed they can be committed today.

Now, these are not exercise troops that are going somewhere for an exercise. These are locked and loaded, fully equipped forces, with ammunition in the holds of the ship, ammunition for the assault helicopters they carry, and for the infantrymen, the artillery, and all of the components that are there with them.

So what I am saying, this is what you buy a Marine Corps to do, and this is what we do for a living. Marines are operators. Together with the Navy, we are forward deployed in support of the national strategy all the time. In order to do that, we have to be ready. So we are buying readiness, since we are continuing readiness.

Let me go back. You have been focusing, Mr. Chairman, on about the past decade. I will add a couple years to that, if I may, and dip back to about the time that I was a battalion commander in the mid-1970's.

I had a battalion in Okinawa of 1,100 Marines. Of that number, 37 percent of them were high school graduates and 44 percent of them were from disadvantaged backgrounds. We were ridden with glassy-eyed drug cases. Marines were shot to death in barracks down at Camp Lejeune. Marines were beaten with entrenching tools.

Our UA rate—our absenteeism—was sky high. Thefts were rampant. That is the type of Marine Corps that we had, and I suggest it was probably reflective of most of the Armed Forces in those days.

In each of the four rifle companies I commanded, there is a machine gun section with six machine guns. No more than four of them ever fired at the same time on the same day.

When I deployed off Okinawa as the 7th Fleet's amphibious force in readiness, I swapped three of my 8mm mortars with a fellow battalion commander because only five of the ones I had would work. The rest were too loose. They could not be fired for safety reasons.

Our aircraft mishap rate in those days averaged, I am told, just something better than about 9 aircraft major mishaps out of every 100,000 flight-hours.

If we had to go to war then, for a sustained period, we would have had about 21 days of sustainability. Then we would begin to run out of bullets.

You have asked, and you have focused on, what has the budget of the past several years done for you? You know that today our force is about 98-percent high school graduates, and all that comes with that particular quality measurement.

We have modernized every weapon starting with the pistol. We do not call it a pistol anymore. It is a personal defense weapon now. We have modernized every weapon in the infantry battalion, which is the bread and butter of what Marines do. It is either new or it works.

We have 57 days of sustainability to shoot through those weapons if we need to shoot them, compared to again the 20 that I recited for you earlier.

Our absenteeism, our drug usage, thefts, all of those things that I characterized as being the types of people we had in the Corps in those days, are not there today.

Our aircraft accident rate is about 3.8 per 100,000 flying hours, down more than 50 percent. That is because pilots can fly and train. That is because infantrymen can train in the field and do what they came into the Marine Corps to do. And that is what we are all about, readiness.

My bottom line today to you is that the cuts the Marine Corps will have to sustain as a result of the fiscal year 1989 budget will not be into readiness. We will continue training. We will, in fact, increase training as General Gray has come over here and told you before.

BASIC WARRIOR TRAINING

Basic warrior training is now a theme that will transition into advanced warrior training, and you will have a more warrior-oriented Marine Corps in the future.

We will have to tighten our belts somewhat. We have some concerns. We will not modernize our force at the same rate we had planned. We will have to take some end-strength cuts, about 2,900, as has been referenced here this morning.

That equates to roughly a regiment of Marines. Precisely where those cuts will come from, I cannot sit here today and tell you. We are doing a bottoms up look at our entire structure to try and look at what structure we should maintain to enable us to go forth and do the things we have to do operationally on a day-to-day basis.

That will probably mean we will move some things that are today in the active structure into the Reserves. But, we will do it under the thesis that we will retain for you a Marine Corps that is structured not too unlike what it is structured today.

It will be capable of meeting the contingencies that we believe are the most likely in the low- to mid-intensity conflict arena without mobilization of any Marines to do that.

We will retain within the total force the equipment, the people, and the capabilities to enable us to take on the high-intensity or the full-fledged combat operations.

Mr. Chairman, that is about what I had to say to you, and I appreciate the time to appear before the committee.

[The prepared statement of General Mundy follows:]

PREPARED STATEMENT OF LT. GEN. C. E. MUNDY, JR.
U.S. MARINE CORPS

INTRODUCTION

Mr. Chairman; distinguished members; as always, it's a privilege to appear before you to help in broadening your understanding of your Marine Corps. In consonance with the purpose of your hearing today I will focus a few remarks on how we structure the Marine Corps.

In a macro sense, Marine Corps force structure derives from three factors:

- Our national military strategy which demands that we have projection forces ready to protect our national interests across the entire globe. The funding provided by the Congress enables us to train, equip, operate, and sustain the forces to do this.

- The stated requirements of our warfighting Commanders-in-Chief for forces possessing the capabilities of the Marine Air-Ground Task Forces we organize from the reservoirs of combined arms provided for in law;

- The laws of our nation, which stipulate that our Corps shall consist of no fewer than three divisions, three aircraft wings, and the necessary supporting forces to enable us to provide ready, responsive forces of combined arms in the interest of our national security. As you know, we organize, train, and commit these "forces of combined arms" as Marine Air-Ground Task Forces. We train and equip these "MAGTFs" to be totally expeditionary and capable of self-sustainment without dependence on foreign bases.

This basic force structure has gone largely unchanged in peacetime since it was established in law forty years ago. Like our other U.S. Forces, it expanded significantly during the war in Vietnam, but otherwise it has been maintained in a relatively stable basic, structured form during peacetime. Today, for example, the Corps stands at an authorized strength of 197,200 - only 8,000 more than its authorized manning of three decades ago.

Within this overall structure, our various components undergo periodic changes brought about by shifts in national strategy or by changes generated by occasional internal studies intended to ensure optimum use of the structure and manning you authorize.

You'll recall, for example, that the Marine Corps that returned from Vietnam in 1972 was a Corps oriented by national strategy to be organized, trained and equipped for operations in a country-insurgency environment. Three years later, it, along with our other services, was aimed at high-intensity, conventional war in a NATO "Center-Region-only" national strategy focus. "Heavy-up for NATO" was a guiding theme under which we increased the number of tank companies in our structure and converted from light to more lethal, longer-range, medium artillery battalions. The end of the decade found our nation's focus expanded abruptly by events in Iran to the criticality of strategic mobility requirements with a force structure orientation toward desert operations. Thus, in less than a single decade, the focus of our national strategy, which provides the blueprint by which we structure our capabilities, shifted three times. Less than a decade later, we find our strategy focusing increasingly on most-likely, Third World contingencies in which lightly equipped forces, rather than more heavily-structured, "NATO-only" forces, appear needed.

Today, therefore, our assessment of the changing international security environment, combined with projected budget cuts and your rightful insistence that force structure be tied to National Strategy, has led us to begin a total, bottoms-up evaluation of our force structure. Boards are assessing our Total Force Structure - the active Fleet Marine Force, the Reserve Force Structure, and the Support Establishment. Our thesis is that while we must be prepared as a total force for general war, we must structure and equip our active forces to be ready for the most-likely conflict: low- to mid-intensity in the Third World.

Despite the fluctuations in the focus of national military strategy, the force structure of the Marine Corps has remained consistent in a macro-sense throughout the last decade. Specifically, we have remained with three active division - wing teams and one reserve team. The flexibility inherent in this overall organizational structure has allowed the Corps to adapt to changing situations.

Through task organization and training orientation we are able to perform the mission without the cost of appreciably changing the force structure.

Today's Marine Corps is sound and fit for service.

COMBAT AND COMBAT SUPPORT STRUCTURE

We are completing the largest modernization ever of our ground combat and aviation forces.

Since 1975, every weapon in the infantry has either been replaced or improved upon. The objective of this modernization effort has been to increase our firepower at the infantry battalion level providing a greater level of lethality sufficient to meet the modern threat without major structural changes. The following have been accomplished during the 1980's:

- Procurement of an automatic grenade launcher
- Equipping of the infantry battalion with heavy machineguns
- Introduction of squad automatic weapons to increase firepower at the squad level
- Improvement of the service rifle
- Replacement of personal defense weapons
- Acceleration of efforts to improve armor-piercing capabilities for both our medium and heavy machineguns
- Improvement of anti-armor capabilities

With these weapon upgrades, the infantry battalion commander is now able to engage a variety of adversary forces with a greater, more versatile arsenal of weapons while maintaining sufficient tactical mobility in order to gain positional advantage over the enemy.

The addition of the Light Armored Vehicle Battalion to the Marine Division has significantly enhanced the Marine Corps' warfighting capabilities. The battalion's unique combination of firepower, survivability and mobility make it ideally suited for task organized, combined arms operations.

Inherent in the battalion's capability is a flexibility for response across various levels of intensity of warfare. The unit is ideally suited for offensive combat in low intensity conflict because of its excellent cross-country trafficability in all types of terrain. In mid to high levels of conflict the LAV-25 and other mission role variants enable the battalion to operate as a self-contained combined arms force that can be employed to shape the battlefield by maneuver against the enemy's rear and flanks.

The addition of the assault gun and air defense variants planned for fielding during the early to mid 1990's will provide the battalion with greatly improved capabilities against bunkers, fortified positions, armored vehicles and the air threat.

Tank battalions, equipped with the M1A1 Main Battle Tank will provide the Marine Corps with the capability to support MAGTF operations across the entire spectrum of conflict. M1A1 tank battalions will enhance the MAGTF's capabilities through increased maneuverability and firepower in support of combined arms operations. The battalion will have the capability to provide high cross-country mobility, accurate and lethal firepower against threat armor and other targets, and the armor protection to allow the battalion to close with and destroy the enemy.

Marine aviation has undergone significant modernization over the past several years. These increases in capability will continue as we enter the 1990's. The introduction of the F/A-18 into the fighter/attack community continues as the three Kaneohe based F-4 squadrons transition to the F/A-18C in mid-FY89. Additionally, the light attack force continues to transition to the AV-8B providing battlefield commanders with a true quick-response capability from forward based sites.

Rotary wing aviation is undergoing one of the most dramatic periods of modernization in Marine Corps history with the introduction of the MV-22, AH-1W, and CH-53E. As this is accomplished there will be a reduction in type/model/series of aircraft, marked improvements in reliability/maintainability and a quantum increase in the warfighting effectiveness of the force.

Although equipment modernization is an essential facet of the plan, several objectives have been paramount in our ongoing modernization program. The foremost has been to promote combat efficiency. Every aircraft in the FMF must contribute toward the overall MAGTF warfighting effort. Aviation's adverse weather and night capabilities are also receiving the highest priority.

Manpower costs remain a major concern as all indications point to continued budgetary constraints for the foreseeable future. Marine Aviation personnel structure has essentially remained constant since 1984. Some internal reorganization has been done with the transition from the Forward Area Air Defense Battery to the Light Anti-Air Defense Battalion, and restructuring of the Marine Wing Support Group, but total personnel has remained steady.

The number of different aircraft type/model/series in the Marine Corps inventory is being reduced by 50% by the early nineties. In addition to the accrued benefits of common aircraft spares, technical expertise, and support equipment, this will aid in the reduction of aircrew and maintenance personnel training costs.

The aviation force structure is designed to ensure that Marine aviation continues to be a fully integrated element of the MAGTF and can provide the unique and essential blend of support suitable to complement the ground forces during amphibious operations and subsequent sustained operations ashore.

1989 BUDGET FORCE STRUCTURE CHANGES

As previously mentioned, in the process of conducting a full assessment of the Corps, we have already completed a concept based requirements study of our force structure as a portion of POM 90/91 development. The results are being evaluated. The study emphasized enhancing the capabilities of our infantry, light armor, and assault support aviation. Heavy forces are being examined for movement to the Selected Marine Corps Reserve. These may include armor and artillery units. In these deliberations, the total force structure - active and reserve - will not be reduced.

As a naval force, the Marine Corps is ideally suited to deal with a low to midintensity mission. There is no single combination of firepower and mobility which is uniformly advantageous to all situations. Naval forces, consisting of power projection capabilities built from carrier and amphibious forces, offer the most cost effective, flexible force for initial intervention in many regional crises. They are strategically mobile and ready for immediate service. Such forward-deployed formations, with embarked Marine Air-Ground Task Forces, are likely already in the vicinity of the crisis, or can move there easily during early stages of "indications and warning" without undue political pressure or media attention.

At the same time, Marines can and must, make significant contributions to the naval campaign in general war. Should we choose to make changes within our force structure, they will provide a more responsive, flexible, and capable total force across the spectrum of conflict.

MANPOWER/PROCUREMENT IMPACTS

While recent years have brought us to an excellent state of overall warfighting readiness, I could not close without citing a concern for the future. Budget reductions in FY89 will cause us to stretch out some important programs, specifically the M1A1 and the AV-8B.

CONCLUSION

This concludes my prepared statement. I would like to reiterate my appreciation for this opportunity and ensure the committee that the Marine Corps stands ready to be the "first to fight". Your Corps of Marines will continue to be prepared to do that which needs to be done to protect and ensure our nation's interests. And, as General Gray has told you before, in the lean times to come, we'll take what you give us, do what is required - and more.

Senator JOHNSTON. Thank you, General Mundy.
Admiral Mustin?

U.S. NAVY

STATEMENT OF VICE ADM. H.C. MUSTIN

NAVY POSTURE

Admiral MUSTIN. Thank you, Mr. Chairman. It is a pleasure to be here. I also have a statement I would request be entered in the record.

I would like to summarize briefly. The U.S. Navy sees an aggregate of 21 categories of commitments which dictate the forward posture of the Navy. In general, the Navy operates in five key geostrategic areas.

The Northern Pacific, which is the area which will involve the defense of the Pacific Northwest of the United States, Alaska, and Hawaii; the Indian Ocean, where so much of the world's oil originates; the Mediterranean, which is the southern flank of NATO and where we keep an eye on Qadhafi and sustain our allies in the Middle East; the Northern Atlantic, which holds the key to the wartime battle of the Atlantic; and, of course, the South Atlantic and the Caribbean, which is our back door and where Cuba sits astride so many of the sealines of communication not only tying the United States to Europe but vital imports to the United States itself.

Any given day the U.S. Navy has, as we have today, about 100 ships forward deployed in those areas, and I regret to inform you that despite the force structure increases that Mr. Taft noted, today we are not fully meeting all of our national or NATO commitments.

In the budget reductions that the Navy took, in general, we tried to protect our sailors and to hold on to the substantive warfighting gains of the 1980's. So, we stressed readiness and sustainability.

EARLY RETIREMENT OF U.S.S. "MIDWAY"

You raised the issue of the *Midway* and her early retirement. If I could, I would like to say that we find 15 carriers, deployable carriers, to be a minimum peacetime requirement that has been validated by five Chiefs of Naval Operations of all warfare specialties.

A carrier today has the punch of 200 B-17's, has the capability of about 10 World War II carriers, and has more air defense than many nations.

If we give up one or two carriers, the country—not the Navy because we do not invent commitments, we just execute them—the country faces two options. Either we back off on commitments or we present our sailors with longer and more difficult deployments.

In 1980, the U.S.S. *Eisenhower* was at sea for 247 days in the Indian Ocean. If you started that today, you would remain at sea under the trying conditions of carrier battle group operations, which are dangerous and demanding even in peacetime, and you would remain there until next November.

You will recall that at that time many of those sailors came home and found their families needing food stamps to survive.

Our net assessment, which you have requested, is that the Navy will survive this budget. We have enough people to man the peacetime fleet. We have enough money to meet our steaming and flying hour goals, which we need in order to stay ready.

Secretary Taft noted that in the 1980's, with the lowest real program growth of all four services, we increased the size of the fleet some 21 percent. We did that with about an 11-percent increase in active duty personnel, and that was achieved primarily through increased retention rather than increased accessions.

We have brought in astonishing quantities of new weaponry, and when I say astonishing, I mean unmatched in my 33 years in the Navy. And we have developed with our sister services and allies the tactics and doctrines to use those weapons in every area of naval warfare.

So in the opinion of the unified commanders, the Navy can discharge its peacetime national and allied security responsibilities today.

Thank you very much, Mr. Chairman.

[The prepared statement of Admiral Mustin follows:]

PREPARED STATEMENT OF VICE ADM. H. C. MUSTIN

Mr. Chairman, I am very proud to appear before you and the distinguished members of this committee to discuss Navy force structure. I'd like to review quickly the precepts of our maritime strategy, then give you my Net Assessment as to where we are today, and close with some observations about the future. Specific items regarding the 1989 Budget Force Structure Change, are provided in Appendix I to this statement.

To begin with, you know that in the 1950's NATO had a three-to-one numerical advantage over the Soviets at sea. In the 60's that ratio was down to about two-to-one. And today, NATO and the PACT are just about at parity in numbers at sea. During this time, the U. S. Navy was cut in half; when I was the Captain of a guided missile destroyer in 1969 we had about 1,000 ships and 26 aircraft carriers. At the same time, the other NATO navies have also been shrinking, because nations have not been replacing their older ships on a one-for-one basis as they retire. Moreover, they have tended to replace the larger combatants -- such as carriers and cruisers -- with smaller, single purpose ships, predominantly frigates. So, within an overall much smaller NATO naval force structure, the percentage of major combatants has declined correspondingly. As but one example, our NATO allies had 24 carriers in 1956; today they have two. (As our NATO allies continue to concentrate on a "low mix" force structure, they become increasingly dependent on U. S. carriers to provide a benign environment for survivable naval operations. The Royal Navy paid a heavy price in the Falklands because they lacked carrier air power. Three ships were lost to iron bombs dropped by 1950 vintange A-4's).

During this same time, in addition to the quantitative gains they've made, the Soviets have closed the qualitative gap -- and they have closed it much faster than we ever thought they could. As a result, the Soviets now not only have more submarines, but those submarines are faster, quieter and deeper diving than we thought they would be by 1988. They now have nuclear powered warships, both surface and submarine; we view the KIROV combat system as a Red copy of our AEGIS missile system. They now have many regiments of long range supersonic bombers. And they have modern amphibious forces with a full Soviet naval infantry brigade stationed just a few miles from the Norwegian border.

Today, the Soviet Union has the largest Navy in the world, and it continues to grow and modernize at a rate that surpasses even our own efforts of the past 8 years. As but a few examples, the Soviets are producing new submarines at a rate equivalent to one every 37 days, including 17 in the last two years. They deployed over 140 Long Range Naval Aviation Bombers equipped with new 200 plus NM air-surface missiles in the last three years; NATO has no equivalent. They are bringing on line the SS-N-21 long range sea launched cruise missile. In other words, they are outproducing not only the U. S. Navy but all of NATO in virtually every category of military equipment -- afloat and ashore.

Because of the enormous advances in the quality and quantity of the Soviet naval forces relative to NATO, SACLANT has concluded -- and stated publicly for a number of years -- that he has only about half of the forces that he would need to fight the next battle of the Atlantic *in* the Atlantic. Similarly, CINCPAC must defend both oil SLOC's from Southwest Asia and key Allies in the far Pacific. In order to do this, he has to be able to counter the Soviet Pacific fleet, the largest of their fleets. He has said that "successful defense of U. S. interests in the Pacific is predicated on engaging the Soviets as far forward as possible". These statements reflect a very sound strategy; it is obvious that we would prefer to fight in the Norwegian Sea and in the northwest Pacific rather than in Hampton Roads or San Francisco Bay.

During this time of enormous U. S. - Soviet force structure changes, the fundamentals of U. S. National and NATO Strategy have not changed. Briefly, those strategies are to *deter war*, but if deterrence should fail, *to defend forward*. The maintenance of our territorial integrity and that of our allies remains a fundamental element of not only our military strategy but the political fabric of our world wide alliances.

This forward strategy -- despite its elegant simplicity -- has drawn criticism from self proclaimed strategists who question our ability to execute it successfully. These criticisms focus on the Soviet capabilities I have outlined, and in so doing they do not properly acknowledge the major improvements in *our* naval forces achieved during this decade as a result of the support of the American people through the U. S. Congress. In just the period since 1980, we have brought into service the F-14D, the E-2C, the F/A-18, 10 AAW cruisers and 10 destroyers, 46 frigates, 27 Los Angeles Class Submarines, and two of the most powerful nuclear powered aircraft carrier in the world. New systems have included the AEGIS AAW system, towed array ASW systems, and the Tomahawk cruise missile. We have developed the tactics to use these weapons systems, including operating with our sister services and allies, and have trained our commanding officers at sea to use those tactics and those weapons. We have recovered from the debilitating personnel shortages of the 70's. Our readiness is at all time high, at least as experienced in my 33 years of experience.

These major force and tactical improvements have reduced the level of risk in our forward strategy despite the Soviet naval expansion. We have introduced revolutionary new concepts in every warfare area, and have developed the necessary doctrine to use them in joint and combined operations. In anti-air warfare, the F-14/E-2C/AEGIS combination gives us the capability to operate in the far northern waters of the bear's backyard and to defeat his aircraft. In strike warfare, the A-6 and F/A-18 give us accurate ordnance on target such that each carrier has the same punch as a World War II 200 plane B-17 raid; we routinely conduct air strikes at ranges in excess of 1,000 miles. The Tomahawk missile is now a key element of our contingency plans. In anti-submarine warfare, our combined arms approach of land-and-sea-based air, towed array equipped surface combatants, and Los Angeles class attack submarines gives us a capability so formidable that the Soviets have been compelled to retreat deep into their home waters in bastions -- and they know they are not safe even there.

Even recognizing that the modern nuclear-powered aircraft carrier has ten times the firepower of a World War II carrier, the JCS have determined that the U. S. needs more than 20 fully structured, manned and supported carrier battle groups in an 800 plus ship Navy to execute the national military strategy with a reasonable assurance of success. The Navy's minimum wartime requirements, or those of even larger size, have been validated by eleven JCS Chairmen, of all services. A 600 ship Navy centered around 15 carrier battle groups is a minimum wartime force level, requiring sequential operations. "Sequential operations" is a phrase that is easy to say but very hard to do. It will require making difficult and explicit political decisions such as, the Mediterranean is less important than Norway, or that one ally will have to be left to his own devices in favor of another.

When we consider naval strategy, we postulate five key geopolitical areas in the world: the Mediterranean, the Indian Ocean, the Caribbean, the Northern Pacific Ocean, and the Norwegian Sea. Each of these areas contains significant strategic interests of the United States. The Mediterranean is NATO Europe's southern flank. The Indian Ocean contains the major oil arteries to the free world. The Caribbean is in our own backyard, where Cuba sits astride our major sea lines of communications to the rest of the Atlantic community. The northern Pacific contains the largest of the Soviet fleets. The Norwegian Sea contains the key to any eventual battle of the Atlantic, and therefore decides the fate of our reinforcement of NATO Europe in time of war. If force levels are reduced, and we have to make choices as to what we are going to give up, which do we choose?

Today, in the opinion of the Unified Commanders and NATO Commanders, the U. S. Navy is capable of executing the national, NATO, and other multi-lateral and bi-lateral strategies and treaties to which we are committed, given that the 15 deployable carrier force level is achieved and maintained.

The foregoing describes where we are today. I will now discuss why the need for forward deployed forces will become even more pressing in the future.

First, the basic geo-strategic need to keep the Soviet Navy bottled up in order to achieve the objectives of our strategy will not be lessened, because the correlation of forces will not change very much, and geography will remain geography.

Second, the conventional force imbalance on the continent of Europe, always a critical factor for our defense planners, is looming even larger strategically now and may become even more so in the future. This will raise the premium for forward deployed maritime forces and further underscore the crucial role naval forces play in NATO defense alongside allied armies and air forces.

At the same time, strategic objectives will continue to encompass the following:

o Deter war, and should deterrence fail, fight as far forward as possible.

o Foster robust alliances to preserve western political identity and institutions, maintain international stability, and prevent hostile domination of vital areas.

o Maintain maritime superiority in the Pacific Basin (including the Indian Ocean) as well as in the Atlantic, and ensure that the continued economic health of those regions is protected.

- Promote global stability, especially in cases where Third World conflicts affect western interests.

Forward Navy and Marine forces directly support deterrence in Europe and Asia by anchoring the flanks -- with both conventional and nuclear power projection capability -- from movable maritime bases. The Soviets' respect for U. S. technology makes systems such as the Tomahawk cruise missile high leverage contributors to conventional deterrence.

The U. S. must maintain a secure strategic nuclear strike force capable of threatening key Soviet military, industrial and leadership targets. Our SSBN force is the most survivable and cost-effective leg of the triad and will remain so. Currently, fifty percent of our national on-line strategic nuclear warheads are at sea, at one-fourth the cost of all strategic systems. The Trident/D-5 is the cornerstone of a capability that provides the U. S. an effective nuclear response through any option the President may choose.

NATO's forward maritime posture has been effective in influencing Soviet perceptions and calculations. This influence is based on our ability to control key ocean areas adjacent to the USSR, and present the Soviets with the threat of a two-front war (Atlantic-Pacific), thereby denying them their preferred single front strategy. Maritime forces keep the Soviets off-balance and prevent them from consolidating their position in Europe. This ability to deny a Soviet victory, even if they should have initial successes in a European land campaign, is a major factor in the deterrence equation. (History shows that a great land power can only be defeated on land and a great sea power can only be defeated at sea. NATO's coalition is anchored by all the world's great sea powers except one. The Soviets are historians -- as long as they remain persuaded that they cannot defeat NATO at sea, they will remain persuaded that they cannot defeat NATO.) In the event of a long conventional war, Pacific resources and trading partners will be critical to sustaining the necessary mobilization and industrial base of the United States and its allies. A strong Pacific maritime posture is needed to ensure these essential trading relationships which in turn contribute to NATO deterrence. In that strategic reality, the Pacific Fleet does not compete with NATO, it supports it.

To reiterate, our wartime force structure requirement of 800 ships centered around more than 20 carrier battle groups has been established by the JCS and approved by the Secretary of Defense. A 600 ship, 15 carrier battle group Navy is a bare minimum force structure for wartime, and forces us to adopt a strategy of sequential operations in order to mass sufficient forces to prevail. It is also the force level endorsed by the President and the 97th, 98th and 99th Congress for our peacetime commitments which I will address next.

In the peacetime aggregate, the U. S. Navy supports 21 categories of fleet commitments; they are influenced by treaty obligations, contingency response requirements, national tasking and our need to train, exercise and maintain the Fleet (See Figure 1).

In the area of crisis response/low-to-mid-intensity conflict, the U. S. should continue concentration on forces based on sea power and a robust amphibious capability to effectively influence events and project power from the sea if required. Naval forces are routinely postured forward around the world; they are the only forces since World War II that consistently have been available and able to meet the nation's security demands in crisis. Navy and Marine forces, forward deployed to critical areas, give the President the ability to respond rapidly with a balanced and effective blend of forces on-scene. It must be noted however, that a crisis in one area of the world does not reduce or cancel other commitments. We need a maritime force structure sufficient to be able to be in a position forward to defend vital national interests worldwide, 24 hours a day, 365 days per year.

Third World crises and regional conflicts will continue to require a force structure that is visible, on-scene, with conspicuous strike and power projection capability, particularly, non-nuclear striking power. Given the lack of overseas bases and overflight rights worldwide, so dramatically highlighted in the Persian Gulf, U. S. maritime forces will continue to be in many cases the only usable military instrument. The organic self sustainability of integrated sea-based Navy and Marine forces contributes the essential element in U. S. gloal power projection capabilities.

Naval forces have been and will remain the force of preference in Third World crises and low-to-mid-intensity conflict situations. This is because the Navy-Marine Corps team can move quickly without recourse to territorial access or overflight rights; and equally important, they can be withdrawn after the crisis subsides as quickly and easily.

The Navy's balanced force structure is both resilient and flexible. The cost effective process of repeated modernization of long-life naval platforms with the latest technology weapons and sensors is time-proven. For example, the USS Coral Sea's first complement of aircraft was comprised of World War II propeller driven fighter bombers such as the Corsair and Helldiver. Today Coral Sea can operate F-18's and A-6's, the most modern tactical fighter and medium all-weather attack aircraft in the free world inventory. The critical element in sustaining a capable and effective naval force structure is the maintaining of a shipbuilding program that will support the mix and numbers of platforms necessary to meet the threats presented by current and future security environments. As in the past, those platforms can be modernized at relatively modest cost as the threat, counters to the threat, technological advances, and budgetary resources permit.

Despite all of the improvements we have seen since 1980, the Navy faces a basic resource allocation problem in attempting to meet the nation's needs (See Figure 2). We need a balance among peacetime commitments, training for war, and reasonable time at home for our sailors.

The source of our problem is straightforward: the country uses our Navy when the United States means business. Our carriers have been used in 70% of all incidents characterized by political violence since 1946. In the last 10 years, the world's crisis response locus has shifted to the Indian Ocean, Persian Gulf, Caribbean and Middle East. Throughout these trouble spots, the air threat is predominant: the Cuban, Iranian, Libyan, Syrian and North Korean air order of battle is over 2,000 airplanes. Denial of overflight rights and lack of land bases are problems, but in spite of that increasing concern, the requirement for air superiority, as dictated by an increasingly sophisticated threat, remains fundmental and nonnegotiable. Naval forces can be moved, world wide, in international waters without crossing any borders. (When we build or utilize airfields ashore, we must defend them; all tactical airfields in Korea were captured at least once during that war. In Vietnam, over 300 helicopters and fixed wing aircraft were destroyed by enemy attack on airfields, over 3,000 more damaged. No Navy aircraft aboard any aircraft carrier was damaged by similar attacks in either war. USS Enterprise is on station today in the North Arabian Sea. A CV has been there continuously for 11 months in support of our current commitment to the friendly countries in the region. During that time, due to politics in the region, we have not been able to bring in land based tactical aircraft.

Our naval deployments also sustain our allies. Often U. S.guarantees and presence are secured only by Naval forces; this is particularly true in the Middle East. Fully 95% of all supplies and commerce move on the surface of the ocean. Forty-one allies are separated from us by seas. This is key: the world must see the U. S. as capable of securing our own and our allies' access to the sea.

Equally important, we need to train where we will fight: in the Norwegian Sea and northern Pacific. SACLANT testified to the Senate Armed Services Committee (SASC) on 23 FEB 1987, "If the Atlantic Command allows the maritime battle to take place in the mid-Atlantic south of the Norwegian Sea - we will lose." The Norwegian Sea is the harshest operating environment on earth. Protective clothing has to provide both warmth in sub zero temperatures and a surgeon's feel to do topside black box work. Machines work differently, maintenance and spare parts schedules are accelerated. In Winter, for 90 days, every landing is a night landing. If you go in the water, you die in seconds. Flight decks freeze; I saw an A-7 blown over the side in Forrestal in 1981 when the flight deck iced up--I have never seen that in a war game or Pentagon "systems analysis." Because of other high priority commitments we have had only 104 carrier days experience there in the last 10 years. This is less than 1/2 of 1% of our carrier operating time. In the opinion of CINCLANTFLT, he needs more carrier time in the Norwegian Sea in order to develop arctic operations expertise. I share that view.

We dropped to 13 carriers in 1976-81. In 1980, USS Eisenhower was at sea for 247 days in the Indian Ocean. (If you started that today you would work seven days a week, 12-16 hours a day, get no overtime pay and have virtually no conveniences or privacy as civilians expect them. You would do so until the end of next November). During that time we suffered a "hemorrhage of talent." We had a higher OPTEMPO than at the height of Vietnam war, and it simply overloaded the system. We were not relieved from commitments, indeed a CV commitment in the Indian Ocean was added due to the Iran hostage crisis. Then as now, the carrier battlegroup was the national policy instrument of choice. During both Vietnam and the Iran crisis we wore out our ships, our planes, and our people. Readiness and retention were hit hard. We were short 22,000 petty officers in 1981 alone; retention was down to about 57% for career people. We were tying up ships because we did not have enough people on board to get them underway safely. With Congressional support and reasonable OPTEMPO and PERSTEMPO goals, we are finally reversing that downward spiral. It is a fact of life that, if we once again cut force levels, we will reenter that corrosive spiral of fewer forces doing more things, with attendant costs in personnel.

In fact, the Navy cannot meet all its commitments today. Figure 3 illustrates how two commitments, the NATO requirement for 2 CV's in the Mediterranean and our national tasking for 2 CV's in the Western Pacific, were affected by a new requirement to put a carrier in the Indian Ocean. In essence, we had to reduce our presence in both theaters to meet the new commitment. And, I should point out, the 'new' commitment is not so new. We put that carrier into the Indian Ocean for the Iran hostage crisis, and the requirement remains to this day.

Figure 4, however, shows the real impact of early carrier retirements. In the example, two carriers have been dropped early. This presents us with a choice between two bad options. We can either abdicate some of our presence overseas, or we could attempt to meet all commitments. The problem here is that the Navy does not *generate* commitments, it *executes* them. If all recent history is a guide, the nation would simply *not* reduce carrier commitments. Hence, we would once again face that overextension of our people and ships that we saw in the late 70's.

Another example of the effects of force structure reduction can be seen in the case of the proposed early retirement of 16 FF-1040 class frigates. Frigates operate in peacetime across the whole spectrum of naval operations, but are particularly important for wartime escort missions, as was pointed out in CINCLANT's comments on the battle of the Atlantic. For wartime convoy escort, SACLANT has determined a need for 112 frigates. With the forces allocated to SACLANT now, he can only provide 52 convoy escort frigates. As Figure 5 illustrates, if 9 of the 16 1040 and FFG-1 class frigates were removed from convoy escort availability, NATO's convoy escorts would shrink by 17% and the U. S. contribution to convoy escort would be cut by 47%. When considered in the context of the overall wartime requirement (112 frigates) you can see that any reductions increase the risk in wartime. Figure 6 shows the base requirement for battle group and fleet operational escorts. It displays the emergent requirement for contingency and drug interdiction support which has been meet with relatively constant force structure.

Today, frigates contribute 40% of the Navy drug interdiction ship days (Figure 7). The 16 1040 and FFG-1 class frigates are the one class of ship which contributed the most to drug operations in 1987.

A final example of the inter-relation between force structure and commitments can be seen in figure 8. The point of the Goldwater-Nichols Act was to improve, amongst other things, joint interoperability. Joint exercises are a key ingredient. We recognized the need for greater participation in joint exercises in 1982, a year before Grenada and well before Goldwater-Nichols. The Navy set a goal of 70% participation in major joint exercises (those that the Navy could logically contribute to). The point is simple: when our ships have to respond to unplanned crises such as Grenada, Libya and the Persian Gulf, they are not available to participate in joint exercises. Therefore, they cannot contribute to the development of joint doctrine and interoperably tactics that are so clearly the intent of the Congress in the law. Force structure cuts *delay* "jointness" where the rubber meets the road.

It takes three carriers, over the years, to keep one deployed. Fifteen deployable carriers are the minimum needed to satisfy all peacetime requirements. Prior to 1970, we never had less than 23, so that requirement was not recognized. Since the early 1970's the Navy position for a fifteen carrier minimum force level has been consistent through five CNOs representing all naval warfare specialties. We have also built new subs, cruisers, and weapons, yet the CV requirement remains. If we unilaterally reduce our carrier force, we will hand the Soviets one of their longest held maritime objectives -- neutralization of our carriers - without extracting one drop of Soviet blood or a single ruble to do so. As Secretary Carlucci has pointed out, a topline of $299.5 billion in budget authority for national defense does not fully finance our requirements, given the commitments and threats we face. This gap between the available resources and the program requirements very simply represents the level of risk we must assume in our defense strategy. The cuts dictate the acceptance of higher levels of risk.

The irony, of course, is that General Secretary Gorbachev understands the implications of naval power at least as well as I, and better than many in the free world. A long-held objective of Soviet ocean policy has been to limit the mobility of naval and air forces. In various proposals, the Soviets have laid on the table measures that would constrain the freedom of these forces to operate on the high seas. We have successfully resisted these efforts on the grounds that any enhancement of security provided by such measures would be marginal, while restrictions on naval and air activity at sea would primarily benefit the Warsaw Pact. Yet Mr. Gorbachev continues to devote a lot of time and effort into limiting naval forces under arms control agreements and constraining naval operations. In the last two years, he has proposed:

(1) Mutual withdrawals of U.S. and Soviet naval forces from the Indian Ocean and Mediterranean.

(2) Limitations on naval activity in the Pacific.

(3) A hint of Soviet withdrawal from their naval base at Cam Rahn Bay if the U.S. would withdraw from the Philippines.

(4) A prohibition on naval activity in areas such as international straits and major shipping routes.

(5) A nuclear free zone in northern Europe and restrictions on naval activity in the Baltic, North, Norwegian and Greenland Seas. (Not suprisingly, he left the Barents Sea out of all this.) These proposals have included limitations on anti-submarine weapons, prior notification of major naval exercises, and observer exchanges for such exercises. Mr. Gorbachev has insisted that failure to reach an agreement limiting sea-launched cruise missiles will hold the START agreement hostage.

The military advantages that the Soviets would gain from such proposals are obvious. Under the Soviet concept of "safety zones for missile-carrying submarines", NATO would be restricted from conducting operations in Soviet SSBN operating areas. The Soviets, in turn, would reciprocate off the U.S. coast. Given the asymmetries between the two navies, the Soviets would gain a clear advantage. The Soviets have nothing to lose in ruling out naval activity in major Atlantic sea lanes; they seldom operate there, and they do not need those lanes. But NATO does need them because those lanes are vital to NATO reinforcement and the resupply of Europe. Agreement to a demilitarized northern region would handicap NATO's ability to exercise the early reinforcement option, thus weakening deterrence and complicating NATO's ability to attain the best possible conventional defense.

Gorbachev is using these proposals to get political leverage in the Alliance. By appearing as active supporters of arms control, the Soviets hope to create tensions in NATO. In negotiations, they hope to get at the enduring and fundamental strength that is inherent in NATO's maritime forces--which they know they cannot match in this century. I view the 13 February Black Sea ramming incident as just one element of this "Capture NATO At Sea" campaign. In my view, it was intended to be a signal that naval operations threaten U.S.-Soviet relations. It was a blatant effort to make western sea power look both dangerous and inept. It said that U.S. naval operations threaten, rather than promote, peace. The fact that our ships were engaged in innocent passage in accordance with international law has been shrugged aside.

I have outlined why the "defend forward" maritime element of our deterrent strategy will be of continuing importance in a post-INF Treaty world. Mr. Gorbachev knows this, so wherever you see a zone of peace being proposed, you can be sure that he sees an area of potential threat. In the northern region, the threat perceived by the Soviets is that our submarines would go after and sink Soviet ballistic missile submarines in their home waters. Unlike our missile submarines, which are invulnerable in the ocean expanses, theirs are vulnerable even in their bastions. Therefore, the Soviets seek submarine-free zones and anti-submarine-free zones in order to protect their submarine forces. Nuclear-free zones are attractive to the Soviets not because they would lessen the possibility of nuclear war but because the absence of nuclear sea-based capability would detract from our policy of "flexible response" and prevent sea-based deterrent forces from achieving their necessary effectiveness. If that ever happened, the Soviets, with their advantages in conventional forces, would have more options in Europe, both militarily and politically, and would be able to play on European fears that the United States would be reluctant to act if the only option available were an all-out nuclear attack.

Repeated Soviet efforts to limit naval mobility provide the strongest possible evidence that the maritime component of our national and NATO forward strategies is a significant factor in the Soviets' strategic calculations. Their latest proposals for northern Europe clearly reveal that Soviet leaders understand that their continental military superiority cannot guarantee success. As long as NATO naval and air forces can operate without restrictions in northern European waters, the Soviets will remain deeply concerned about our forward strategy. They will seek to obviate it through negotiations.

If Gorbachev's maritime initiatives succeed, or if we weaken our naval capabilities to the point that we cannot, with assurance, counter those of the Soviets, stability will be reduced and our ability to deter Soviet intimidation or aggression will be degraded. We must not allow ourselves to be maneuvered into taking such a dangerous step.

In closing, I would like to acknowledge the budget problem, and our part in helping to solve that problem. As Secretary Carlucci has said, achievement in FY 89 of the Navy's long standing force goal of 600 ships has had to be deferred for a combination of reasons. Several new ships scheduled to enter the fleet will deliver late and 16 frigates will be retired for fiscal considerations. Under Secretary of the Navy Garrett has testified that significant force structure reductions have long term implications for our national security. With four years of real decline in defense already a fact, we risk entry into another era of neglect. While I fully support the notion that we in the Navy have to do our part in the battle against the budget deficit, we must be equally clear on the degree of risk we assume for our national security and that of our allies by cutting our force structure, our warfighting ability and our deterrent capability.

As Admiral Crowe, the Chairman of the Joint Chiefs of Staff, points out, the level of expenditure necessary to maintain our deterrent power and the fragile peace that we enjoy, if paid, is far cheaper than the terrible cost in blood and treasure that we might incur on the first day of general hostilities. None of us ever want to pay that price again.

Senator JOHNSTON. Thank you very much, Admiral Mustin. General Dugan?

U.S. AIR FORCE

STATEMENT OF LT. GEN. MICHAEL J. DUGAN

BALANCE PROBLEMS

General DUGAN. Mr. Chairman, thank you very much. It is an honor to be here.

Similar to the remarks of my colleagues at the table, I have submitted a statement for the record and wish that that be inserted, and I will give very brief introductory remarks and respond to your questions.

Consistent with the Secretary of Defense's remarks, the Air Force, in fact, has very modest, very small force structure growth in the timeframe 1980 to 1989.

In fact, as he had described it, our problems in that timeframe in 1980 were sort of balance problems, and our strengths are balance strengths. And our problems and our strengths today and for the future appear to be both balance and the balance that will give us a mix of challenges and strengths.

As you said in your opening remarks, Mr. Chairman, combat capability comes not only from force structure, which is the most evident and the most obvious element of military power, because you can see the units, you can see the aircraft, you can see the ships, you can see the base structure that goes with them and so forth.

But that is just one element of the four pillars. And, in fact, the Air Force's major emphasis over the past 8 to 10 years has been largely in modernization, with some growth in force structure, particularly in the tactical world, tactical fighter world.

AIR FORCE GROWTH

The Active Air Force has grown, for example, by 47 fighter and attack aircraft. The Air Force Reserve has grown by 61 in that same timeframe and the Air National Guard has grown by some 211.

And the end-strengths that have gone along with that have reflected about a 3-percent growth on the Active Force, 40 percent in the Air Force Reserve, and a 20-percent growth in the Air National Guard forces, which I think says that we understand, and we have great appreciation for the contribution of the Air Force Reserve and the Air National Guard to the total combat capability of the United States.

We value their contributions very highly. We understand how to use them in peace and in war, and we mean to preserve their strengths, preserve the forces that they can contribute, and in a balanced fashion keep them ready to meet our needs as they evolve throughout the world.

There are a number of other areas where there has been increase, but it is not so easy to see as in the force structure. Space force structure, in fact, has grown. It has grown in our ability to put balls up. There are not very many more balls up. But we have the infrastructure and we are ready when the space launch recovery process completes.

In addition, we have maintained active development in our SOF forces, and the start of the growth and increase in SOF force structure is on the horizon. Indeed, some of the resources, aircraft resources, are showing up on the ramp today.

For the future, we will have a somewhat smaller Air Force, but we mean to keep the balance between force structure, readiness, modernization, and supportability so that we will have very capable forces.

I am prepared for your questions.

[The prepared statement of General Dugan follows:]

PREPARED STATEMENT OF LT. GEN. MICHAEL J. DUGAN

MR CHAIRMAN AND MEMBERS OF THE COMMITTEE: I am pleased to appear today to discuss the stewardship exercised by the Air Force in managing its force structure over the decade of the 80's. The Air Force, in fulfilling its charter to organize, train, equip, and sustain Air Force forces for the unified and specified combatant commanders, has acquired modern systems to replace or complement the existing force structure. Throughout the process the Air Force has abided by a fundamental philosophy--force structure should support the strategy designed to achieve national security objectives articulated by the President.

SOVIET THREAT FACED

Our national security objectives can be summed up simply: Allow for the continued existence of our nation as a free society while honoring our commitments to our allies. The major impediment to achieving these objectives is the avowed goal--world domination--of the Soviets.

Setting aside the current public thrust of the Soviets to achieve nuclear agreements, we and our allies are still faced with the greatest concentration of forces in the history of the world. Since 1980, the Soviets have continued their modernization of their strategic nuclear forces reinforcing their view of "essential equivalence" in the arena while outstripping the western powers in conventional capabilities. The Soviet's are continuing to maintain their traditional quantitative advantage: But more alarming is the "qualitative equivalence" the Soviets are driving toward. Since 1980, the Soviets have fielded bombers equipped with Air Launched Cruise Missiles; the Soviets have placed greater reliance on ballistic missiles deployed in a mobile basing mode; and the Soviets have fielded tactical fighters with a look-down shoot-down capability with improved maneuverability. The traditional technological edge once enjoyed by the US is becoming smaller.

STRATEGY/DOCTRINE CHANGES

Yet, in the face of the Soviet advances, the basic national military strategy has remained relatively unchanged. The basic military strategy that has guided our efforts for over forty years has been the national military strategy of deterrence--with the goal of deterring potential adversaries across the entire spectrum of conflict. The core element of this strategy is our efforts to deter strategic nuclear warfare. We simply cannot afford the terrible consequences should deterrence fail at this level.

Secondly, deterrence must extend into the conventional arena to ensure that a conventional confrontation doesn't become the "trip wire" escalating to a higher plane of conflict. To preclude this, our theater strategies of forward deployed forces and flexible response remain valid and operative. Even in the context of an Intermediate Nuclear Forces Treaty.

Thus, the stability of our national military strategy has allowed the Services to "fine-tune" their doctrines in support of the strategy. Service doctrine articulates fundamental principles by which the military forces guide their actions in support of national objectives, thus becoming the underpinning of national military strategy. From an Air Force perspective, we believe our doctrine provides a roadmap by which air power forces are employed to achieve national military objectives. Since 1980, the Air Force has "fine-tuned" our basic doctrine, but no significant changes occurred. Examples of the "fine-tuning" are the evolution of air support to the Army maneuver units characterized in the AirLand Battle doctrine. Complementing the AirLand Battle doctrine is the concept of Follow-on-Forces-Attack which again emphasizes the traditional Air Force mission to interdict key enemy forces across the battlefield. Also, the Air Force is continuing its support to maritime operations. None of these areas are new, but rather a more refined articulation of the dominant role air power represents for the theater commander.

Since strategy and doctrine remained relatively constant during the 1980 to 1988 period, the Air Force had a clear roadmap to guide its decisions in evolving the requisite force structure. Force structure is only one of "four pillars"--Readiness, Sustainability, Modernization, and Force Structure--which supports our combat capability. And, combat capability is not served well unless these four pillars are mutually reinforcing.

READINESS, SUSTAINABILITY, AND MODERNIZATION

From 1980 to 1988, significant improvements in the areas of readiness, sustainability, and modernization occurred in addition to force structure. In the areas of readiness, the mission capable rates of all systems collectively displayed a dramatic improvement over the years prior to 1980. In 1980, our mission capable rate was slightly better than 65 percent, but grew to above 80 percent in 1987. After 1987, the rate stabilized at roughly 80 percent.

Sustainability of the force improved in this same time frame. Key indicators of wartime capability, war reserve spare kits, base level self-sufficiency, and other war reserve materiel, when viewed together, have steadily risen. Expanded funding in this area resulted in an enhanced Air Force capability to perform our wartime mission.

The most dramatic and visible achievement is in the area of modernization. Fielding new equipment such as the F-15, F-16, B-1B, and Peacekeeper has provided an enhanced combat capability which contributes significantly to this nation's deterrence strategy. Modernization allowed phaseout of systems qualitatively obsolete. Examples are the retirement of the Titan Ballistic Missiles and phase down of F-4s from the active and Air Reserve forces. Thus, new systems came on-line and older systems exited the force. Result: slight growth quantitatively providing significant growth qualitatively, i.e., a solid return on investment.

SUPPORTING THE STRATEGY

In supporting our contribution to strategic nuclear deterrence, the Air Force will field 100 B-1B strategic bombers and 50 Peacekeeper Ballistic Missiles in silo basing to enhance our ability to hold Soviet targets at risk, with an improved "hard target" kill capability. In the same time frame, qualitative improvements to the B-52 fleet with Air Launched Cruise Missiles and accuracy improvements for the Minuteman Ballistic Missiles have allowed these proven systems to remain viable in the deterrence role. Providing more modern engines to the existing KC-135 fleet proved to be a true "force multiplier" as the same number of aircraft now will provide additional capability without the major investment of fielding an entirely new system. To complement the existing KC-135 fleet, we acquired 60 KC-10s which not only enhance our ability to provide strategic and theater refueling, but also allow for a much needed increase in our ability to move combat/combat support equipment intertheater. From my vantage point, the Air Force is meeting the demands of strategic nuclear deterrence--placing uncertainty in the minds of the Soviet planners--thus making armed conflict with the US and our allies at any level a much more difficult, costly and therefore, less likely event.

In the theater warfare arena, the Air Force again made significant strides. Our TAC fighter wing equivalences grew from 34 to 38. This was not only a quantitative increase, but a major qualitative increase. Since 1980, 210 F-15s have been brought on-line. In addition, 798 F-16s have taken their place beside the F-15s. These systems are, in my opinion, the best fighters in the world.

Additionally, acquiring the B-1B will allow B-52s to be dedicated to the conventional role. Not only do these aircraft represent a tremendous statement of national resolve, they also provide an immeasurable ability to strike deep in an enemy's "backyard." This provides increased options to theater commanders.

Strategic airlift, allowing rapid reinforcement of a theater, also improved over this same period of time. In addition to the KC-10s already mentioned, the Air Force will add 50 C-5Bs. Over the same time frame, the Air Force completed stretch modifications of 234 C-141As to C-141Bs, providing a 30 percent increase in fleet capability.

Besides acquiring better airplanes, new modern munitions are also entering or have entered our inventory. Programs such as the Combined Effects Munition, the Sensor Fused Weapon, and improved Air-to-Air Missiles will contribute to the success of our forces against quantitatively superior forces of any potential adversary.

In this period, we not only added additional systems, but also replaced systems which have limited capability to survive in the ever-increasing threat environment. In this regard, 6.2 TAC fighter wing equivalents transitioned from F-4s to F-15s and F-16s. Without an endless supply of money, modernization of the force must be balanced against expanding the force by weight of sheer numbers of systems.

TOTAL FORCE POLICY

Modernization of the force was not a unique phenomenon for the active force. Modernization occurred within the Air Force Reserve and Air National Guard. Today, "Total Force" is a fact of life. In 1980, the Reserve and Guard contributed 32 percent of our tactical fighters, 60 percent of air defense interceptors, and contributed 50 percent of the crew force in the strategic airlift business. In contrast, the Reserve and Guard now contribute 33 percent of our tactical fighters, 86 percent of air defense interceptors, and now comprise 55 percent of airlift crew force including both Associate crews and Reserve and Guard crews in organic airlift squadrons. In addition, 40 percent of the KC-10 mission is supported by Associate crews.

While the Reserve and Guard were expanding their participation, they also were being modernized with better equipment. F-4s replaced F-105s; F-16s replacing older model F-4s; and C-141s and C-5s were added creating "organic" strategic airlift squadrons. These enhanced capabilities directly impact our ability to be successful across the entire spectrum of conflict.

OPERATING TEMPOS/TRAINING CHANGES

While modernizing the active and reserve forces, the Air Force also funded a steady increase in the number of flying hours. Training is the key to fully exploit expanded weapon systems capabilities. Training yields better aircrews and this ultimately provides a "force multiplier" effect in any given combat scenario, from a strategic nuclear exchange to low intensity conflict. Beginning in 1980, our flying hour program increased significantly, which can, in some degree, be attributed to the modernization of systems which allowed a better mission capable rate. This increase in flying time, which averaged over 2 hours per pilot per month, also resulted in a much lower accident rate--made more significant by--new, more complicated systems.

And since 1980, the Air Force has taken full advantage of training opportunities to maximize the effect of these training operations. The "Red Flag" program includes both active and reserve forces; systems from all major commands are fully integrated into the program. The Air Force and the Army have expanded their efforts to train together to maximize combined operational capabilities. Maritime operations for the Air Force are stressed in our training exercises with the Navy. Not only do we play the "aggressor" in the exercises, but in some cases, we are now training in the role of fleet defense. The Air Force can contribute to the sea surveillance mission and a Harpoon-equipped B-52 can become a nightmare to an adversary's naval forces.

From 1980 to 1987, our "Ops Tempo" and training levels increased, yielding an effective return on our investment. However, fiscal year 1988 reductions to the operations and maintenance account, the heart of training and readiness, have forced us to reverse some of the progress made in previous years. Although it is still early in the fiscal year, and major commanders are wrestling with absorbing reductions while maintaining minimum capability levels, it is becoming clear that some major training exercises like Red Flag, Cope Thunder, and Checkered Flag deployments will be drastically reduced or canceled. Also, unless the Air Force gets reprogramming authority, the Tactical Air Forces may not be able to fly out their flying hour program--a program which has already suffered reductions in fiscal year 88.

FISCAL YEAR 1989 AND BEYOND

As we move into the next decade, the gains made in the past few years provide an excellent baseline. However, these gains did not offset the results of the austere budget environment existing prior to 1980 (Figure 1).

Fiscal year 1989, as a result of a 10 billion dollar reduction in obligation authority, will see force structure changes as well as a slow down in the modernization process of the active force. F-15 procurement rate is down. The number of tactical fighter wings is down, moving further away from the goal established by the Administration in the Defense Guidance. Modifications to older aircraft are stretched out or canceled. All of these program decisions were tough. The Air Force terminated over 20 programs, some big and some small. Examples of programs terminated include the Anti-Satellite Missile program and the AGM-130 Tactical Standoff missile.

Fiscal year 1989 force structure decisions were made in the same context as in the 1980 to 1988 growth period. Support for the national military strategy is and always will be the prime driver when matching force structure to fiscal constraints. In the same context, support for the national military strategy is only assured when the four pillars mutually reinforce combat capability. However, with reduced funding, increased levels of risk, both near and long-term, will become facts of life.

The reduction in the rate of modernization, and force structure, will allow for continued readiness and sustainability of the resulting force structure. However, we must recognize any long-term modernization delay mortgages the future versus the budget concerns of the present. A "hollow force" serves no one well and it certainly would not serve the national military strategy in support of our national objectives.

On the all important "people" side of the ledger, fiscal year 1989 will see a drawdown of the Air Force end strength when compared to fiscal year 1987. Civilian end strength will decline by 1,400 and in the military sector, end strength will decline by 23,100, including 3,500 officers. Coupled with this is the declining pilot retention rate in the six to eleven year group. Remember, pilots and our other skilled resources are the "front line" combat troops of the Air Force.

SUMMARY

In the period from 1980 to 1988, the Air Force continued to build and maintain a modern, capable force to support the national military strategy. However, fiscal year 1989 will see the Air Force take cuts which will leave the Air Force lean yet capable--but with increased risk facing us.

The efforts of the Air Force to develop programs that fill the specific needs of the combatant commanders is on the mark. Properly supported, they will buttress all levels of deterrence and allow us to prevail in combat should it occur. The Air Force programs are well-conceived to support our national strategy. However, these programs are only viable with a continuing and steady fiscal commitment to support these programs. My Chief has characterized the fiscal year 1989 force as being muscle and bone with no fat. Therefore, every dollar cut from the defense budget will "buy" increased risk.

I look forward to your questions, and the opportunity to discuss these matters in more detail.

BIOGRAPHY

Lieutenant General Michael J. Dugan is deputy chief of staff, plans and operations, Headquarters U.S. Air Force, Washington, D.C.

General Dugan was born Feb. 22, 1937, in Albany, N.Y. He earned a bachelor of science degree from the U.S. Military Academy in 1958 and a master of business administration degree from the University of Colorado in 1972. He completed Squadron Officer School in 1965, Air Command and Staff College in 1970 and the Air War College in 1973.

His early operational assignments were in F-100s and A-1s. He flew A-1s during 1967 from Pleiku Air Base, Republic of Vietnam, and Nakhon Phanom Royal Thai Air Force Base, Thailand. He then planned and taught cadet military training courses and served as cadet squadron and group air officer commanding at the U.S. Air Force Academy.

From June 1973 to July 1977 General Dugan was assigned to Air Force headquarters as an action officer and branch chief in the Office of the Deputy Chief of Staff, Plans and Operations, and then as executive to the vice chief of staff. General Dugan next served at Davis-Monthan Air Force Base, Ariz., as vice commander of the 23rd Tactical Fighter Wing, England Air Force Base, LA., and commander of the 832nd Air Division, Luke Air Force Base, Ariz.

In May 1982, he was assigned to Langley Air Force Base, Va., where he served successively as Tactical Air Command's assistant deputy chief of staff for operations, inspector general, and deputy chief of staff for operations. In June 1986, he was assigned to the Office of the Deputy Chief of Staff for Plans and Operations at air Force headquarters as director of operations and became the assistant deputy chief of staff for operations in January 1987. In June 1987, he was assigned as deputy chief of staff, programs and resources at Air Force headquarters. He assumed his present duties in March 1988.

The general is a command pilot with 4,500 flying hours and 300 combat missions. His military decorations and awards include the Distinguished Service Medal, Silver Star, Legion of Merit with two oak leaf clusters, Distinguished Flying Cross, Purple Heart, Air Medal, Air Force Commendation Medal with two oak leaf clusters, Presidential Unit Citation, Air Force Outstanding Unit Award, Combat Readiness Medal, National Defense Service Medal with one service star, Vietnam Service Medal with three service stars, Air Force Longevity Service Award Ribbon with six oak leaf clusters, Small Arms Expert Marksmanship Ribbon and Republic of Vietnam Gallantry Cross with Palm.

He was promoted to lieutenant general July 1, 1987, with same date of rank.

General Dugan is married to the former Grace Anne Robinson of Troy, N.Y. They have six children: Colleen, Erin, Mike, Sean, Kathleen, and Kevin.

General Questioning

A-10 AIRCRAFT

Senator Johnston. General Dugan, at Hancock Field, you have replaced 16 A–10's with 12, no, 24 A–10's with 18 F–16's.

First of all, what are you going to do with the A–10's? And does this presage moving A–10's out of the attack force?

General Dugan. Those A–10's in fact, I believe, are programmed to go into our forward air controller force, which is an integral element of the Air Force's concept of operations for conducting close air support.

They are programmed to go to an Air National Guard unit, I believe, and the level of commitment that the Air Force has for continuing to be able to do the close air support mission is, in fact, not reduced at all.

I believe we have 10.3 wings committed to that particular mission at the present time. It is some 40 percent of our force, and we have more committed to that particular mission than we have to any other.

F-16 AIRCRAFT

Senator Johnston. Will the F–16's be going into an attack mission?

General Dugan. The F–16's are multipurpose airplanes. The F–16's can do attack work, they can do air to air, they can do air to ground. They do interdiction, they do close air support, they do the air superiority role.

They do whatever the unified commander in the combat zone needs them to do most today.

Senator Johnston. Does this signify any change in your confidence in or the role that you see for the A–10?

General Dugan. No; I do not believe so. I believe that we will continue to use the A–10 in a balanced fashion where we find its capabilities most useful.

Senator Johnston. And you do not see a lot of changes around the country?

General Dugan. I do not see a lot of changes.

PERSONNEL ON TOUR SHIPS

Senator Johnston. Admiral Mustin, you mentioned the problems of personnel on aircraft carriers and other ships, the 247-day tours.

How does the *Midway* figure into this? Does deployment of the *Midway* really make that a worse problem?

Admiral Mustin. The deployment of the *Midway* lessens that problem, Mr. Chairman.

She, as you know, has got some aircraft handling problems under certain sea conditions. She has no flight restrictions. And the fact that the F–14 is not on board has nothing to do——

Senator Johnston. What I mean is, you have got the same number of personnel with more ships. How does that lessen the burden on personnel?

Admiral MUSTIN. Because the fewer ships still have to go the same numbers of places. So if we have two ships to meet the commitments of 15, they will meet themselves coming and going and our sailors will never have any time with their families.

Senator JOHNSTON. I see.

Admiral MUSTIN. So it is essentially the five key areas in which we operate that requires a 15-carrier peacetime force level.

And as you know, the Joint Chiefs have for years suggested that more than 20 are required to meet our wartime commitments.

NATO COMMITMENT

Senator JOHNSTON. You say you are not meeting your NATO commitments as it is. What commitments are you not meeting?

Admiral MUSTIN. We have a commitment to NATO to keep two carriers in the Mediterranean all the time. We are not meeting that now.

Two carrier battle groups, and that includes numbers of cruisers and destroyers which are also not there.

AIR WINGS ON CARRIERS

Senator JOHNSTON. Can you tell me about what seems to me to be a mismatch between the air wings, the active air wings, and the number of carriers, with the decision to have only 13 active air wings—2 in reserve and 15 carriers. Is that not, are we not shortchanging our air components?

Admiral MUSTIN. We will be in the future. Right now we are not, because of the carrier SLEP, or overhaul, schedules and the existence of the two reserve air wings.

Until the carrier SLEP is complete, we are all right with air wings and carrier decks. At some point in the future we are going to have to have more air wings.

Senator JOHNSTON. When would that point be?

Admiral MUSTIN. That will be when the 15th carrier enters the fleet.

REFURBISHMENT OF "MIDWAY"

Senator JOHNSTON. As for right now, how much of the time is the *Midway* going to have to spend in being refurbished?

Admiral MUSTIN. Well, we have not completed our plan to fix the *Midway*, should we attempt to do that.

Right now she is in a routine availability period, which all carriers go through. She is not presently scheduled for any other than normal maintenance that we have had scheduled for her, in accordance with the maintenance strategy.

Senator JOHNSTON. Thank you very much. Senator Stevens?

Senator STEVENS. Thank you, Mr. Chairman. I apologize to you and everybody else. I thought this hearing had been canceled. I was over at the other classified briefing on the SS–20, and I am sorry that I missed Secretary Taft.

But Admiral Mustin and General Shoffner, you deal with, as I understand it, plans and policy as well as operations. Is that right?

Admiral MUSTIN. That is right for me; yes, sir.

General SHOFFNER. I deal with force development, sir.

TRANSFER OF FUNDS FROM LINE ITEMS

Senator STEVENS. I am concerned about the request we have now for 1988, a request to have authority to transfer $4 billion from the line items that we appropriated money for last year to pay must-pay bills, and as we look at them, most of them are costs associated with overseas deployment, and I think that you two and the Air Force have most of the costs associated with overseas deployment, I have talked about this before, with the exchange rates for the German mark and for the Japanese yen accelerating so rapidly. This budget before us for 1989 has an estimate that the exchange rate will be 163 yen to the dollar. It is already about 120 to the dollar.

Under those circumstances of the changes in these exchange rates, why are the plans that are before us not based upon bringing more of these people home rather than stationing them abroad where the costs are accelerating so rapidly?

"MIDWAY" CARRIER COSTS

Admiral, the Chairman asked you, Senator Johnston asked you about the *Midway*. The cost of the *Midway*, as I understand it, is about twice what the cost would be if it were brought to your home State in Washington.

Why do we keep it in Japan under this excessive cost?

Admiral MUSTIN. The reason that we keep it there basically is that if we wanted to keep a carrier deployed in the Northwestern Pacific all the time without it being home ported in Japan, we would have to have three carriers in order to do that.

Senator STEVENS. Well, I come from Alaska. You could put one in Alaska just as easy and at less cost than keeping it in Japan today.

Admiral MUSTIN. We will certainly take that under advisement, Senator.

Senator STEVENS. We had hoped you had.

I really worry about the concept of these exchange rates, and I do not see any of the plans being changed based upon the rapid fluctuation in these exchange rates. You are going to be transferring money from accounts you have testified before us that they are essential for 1988 and 1989, and yet now the Department wants to shift $3 billion to $4 billion annually from those accounts just to take into—just to pay the bills that come about because of the changes in exchange rates.

I would hope that those of you making plans are cranking that very ability into these plans, and it seems to us that the only way to beat that is to bring some of these people home.

Have any of you got any plans to bring anybody home this year?

Admiral MUSTIN. Not I.

Senator STEVENS. I understand even those that are associated, people associated with the Pershing are not to be brought home.

General SHOFFNER. Sir, you are correct in the aggregate strength. Those units and those people will be phased out, but we will make offsetting adjustments for shortfalls that exist in the forward deployed forces today.

You are certainly correct on the problem and the difficulty of dealing with the fluctuating rates of foreign exchange. As you know, we have tried to improve the support by host nation support to try to offset this somewhat. We have made some improvements on that, and we will continue to work that.

It would be difficult for us to redeploy to CONUS today, conventional forces in Europe, at a time where we are going through the INF adjustment; when we already have significant shortfalls vis-a-vis the opposing Soviet and Pact forces.

Senator STEVENS. Yes, but General, back in the time when we set a congressional limit upon deployment in Europe, we made exceptions for the increase that was necessary for the Pershings. Now that the Pershings are going out, those people are to stay there, and in effect, we have increased our deployment to the other units that were permanent units in Europe, and while we are doing that, we have had a severe impact on the light division deployments in the United States. In my State, as you know, we are going to have to delay a battalion going into Fort Wainwright. We have changed one battalion in Anchorage from a regular unit to a Guard unit, and you have had, I think, an 8,600-man reduction.

General SHOFFNER. That is correct.

Senator STEVENS. Primarily, as I understand it, those have all been placed upon domestic, units assigned here in the United States, the domestic force, is that not correct?

General SHOFFNER. You are correct, sir.

Senator STEVENS. And yet, we maintain them in Europe, the highest cost soldier we have got today, or in Japan.

They told us that in Japan the cost is more than $45,000 per sailor or Marine or Army person or Air Force person assigned there on an unaccompanied tour.

General SHOFFNER. You are correct, sir, on the cost of the forward deployed. It is also the greatest risk and the first to fight, and that is another factor that we have got to balance in those drawdown decisions.

C-17 AIRCRAFT

Senator STEVENS. I have got to tell you, gentlemen, I have been here long enough now to hear so many different plans and proposals, if we are going to leave them over there, then why do we need the C-17 in order to get them there? We have got a request now for the C-17, urgent request for money to build the C-17, which we believe in, but if the troops are already in Europe or in Japan, why do we need another plane like that?

General Dugan, are you involved in planning?

General DUGAN. Yes, Senator, I am involved in planning.

Senator STEVENS. Why do we have this redundancy of cost for our overseas deployments?

General DUGAN. The reason we have forces overseas, and quite frankly, from the plans and policy perspective we do not sit down and look at overseas exchange rates when we try to assess the threat, when we try to look at the national policy on where are our interests, what are the things we need to protect that Americans have been interested in for a long time. Those kinds of fluctuations come up from time to time, and we need to adjust to those. But the warfighters who are represented by the four gentlemen here in front of you, do not start off with that as one of the entering arguments for assessing what kind of forces do we need overseas, how should they be postured, what is the distribution between Army, Air Force, Navy and Marines.

They look at largely the threat and largely at the commitments that our Government has undertaken in conjunction with our allies to protect American interests. They have attempted to put, I believe, on both a unilateral basis and on the joint process overseen by the Chairman of the JCS, to put a minimum amount of forces overseas to act as a deterrent role to those forces which might interfere with the interests of you and your constituents, and then the major fighting forces are, in fact, maintained here in a central reserve in the United States. That is a relatively thin layer of forces in the Far East, in Europe, certainly in South and Central America, even those that we maintain, as Admiral Mustin mentioned, on the high seas, that is a relatively small presence compared with what we would have to mobilize in the event of major hostilities to conduct our combat operations.

Senator STEVENS. General, some of us who have been very supportive of the Defense Department for years are having serious questions about your planning now. When we had the increase to man the cruise missiles, we agreed to an increase of 20,000 new service people in Europe plus some 25,000 civilians.

Now the cruise missiles are to be brought back under the INF, they are standing down, as I understand it. The plans before us indicate that those people are now to be shifted over to other Air Force units in Europe and are not to come home.

General DUGAN. I am not familiar with that on the basis of Air Force ground-launched cruise missiles units. I believe we had a plan to deploy some 9,000. We never reached above 8,000, and I believe that if not all——

Senator STEVENS. But they were not all Air Force, as I understand it. It added up to 20,000 in addition.

But again, the planning seems to be—well, take your Air National Guard. We have been asked to approve a concept of reducing.

You do handle Air National Guards, do you not?

General DUGAN. I look after Air National Guard affairs, too.

Senator STEVENS. I do not want to be unfair, but we are told that you are going to reduce the tactical squadrons from 24 to 18 aircraft, that that will save $5 million for the Air Force. It would be a severe disincentive to the maintenance of our Air National Guard squadrons.

Surely there must be some planning capability that could offset that kind of loss to the Air National Guard that would save $5 million someplace else.

General DUGAN. Senator, I have visited with people from a number of those units that are going to convert from A–10's to F–16's, from F–4's to F–16's, and to a man virtually—as a matter of fact, I cannot think of anyone who has a complaint about that in the units. They are excited about getting those modern airplanes. There is a great deal more capability in 18 F–16's than there is in 24 old F–4's.

In addition to those F–4's being expensive to maintain and operate on a daily basis, in addition to the increased combat capability, there are expenses for modernizing and upgrading those F–4's, if we wanted to send our aviators to combat with those in their current condition. So there is a number of cost avoidance proposals involved that we just think it makes sense for everybody.

Senator STEVENS. Well, how many of those aircraft are assigned to a regular Air Force squadron?

General DUGAN. How many aircraft are in a regular?

Senator STEVENS. It is my understanding you are reducing it from 24 to 18 for the Guard and Reserve tactical squadrons.

Now, are you reducing, having a similar reduction for the regular Air Force?

General DUGAN. We do not a plan to do that at the present time.

Senator STEVENS. Well, then, why give me the argument that these people ought to be happy about what is happening to them? You are cutting an average of six pilots out of every squadron of the Guard and Reserve. And it is saving $5 million only for fiscal year 1989. Now, that is a plan we have a right to question, and we are seriously questioning the judgment of people who give us that recommendation.

General DUGAN. It saves $5 million in 1989, it is going to save $5 million in 1990, it is going to save $5 million in every year thereafter, at increased combat capability. We think that this is a good bargain for the American taxpayers. There is great additional capability at great savings.

Senator STEVENS. Well, then, we should follow the same savings for the Active Air Force and reduce them to 18.

General DUGAN. We have looked at the Active Air Force, and, of course, there is an interaction between the Active and the Reserves. As I mentioned in my opening remarks, one of the Air Forces strengths is balance, and one of our problems is balance. We attempt to keep the balance between the number of forces, amount of forces on active duty and amount of forces in the Reserve so that, among other things, we can provide the pilots that go to fly the Reserve and Guard units, because in very large measure that is where they come from, out of the Active Force.

As a matter of fact, our tactical airlift force right now, 40 percent of it, is on active duty and 60 percent is in the Guard and Reserve.

The size of the force that is on active duty is so small that it is not sustaining itself. The amount of work that needs to be performed, it is similar to Admiral Mustin's comments about the deployments overseas. The commitments and the amount of training and the amount of operational commitments and the workload against this small portion of the force has driven the tactical airlift force down to where its retention rate is 33 percent. It is down to where it is not a critical mass, it is not sustaining itself in terms of the needs of the Air Force for pilots that have tactical airlift experience.

Senator STEVENS. Well, my time has expired, I am certain. I see strange things in this budget. We are going to deactivate 16 frigates and keep an old aircraft carrier in Japan that has stability problems. It is going to cost us somewhere between $80 million and $120 million to keep it going, as I understand it, and those 16 frigates, if we had put them in the Reserve, we would have a force structure for an emergency that would far exceed the ability of the one aircraft carrier, particularly when it really would not be too functional in an emergency, Admiral.

And maybe some of us need to spend some more time with you all, but I have spent now 17 years listening to the presentations, and this one this year really bothers me more than any one in the past, and the reason is as we have made the cuts. The cuts have been made in order to maintain forces abroad, to the detriment of modernization, to the detriment of achieving the goal of a 600-ship Navy, of keeping up with our production of aircraft and tanks, and we are keeping people in Japan and in Germany at such an excessive cost, it just does not seem to make sense.

And I come back to the *Midway* again. The tradeoff is a *Midway* for 16 frigates, as I see it.

Admiral MUSTIN. Senator, with all due respect, I do not think anyone who has ever served in any Navy in the world would trade you an aircraft carrier for 16 frigates.

Senator STEVENS. This budget does that.

Admiral MUSTIN. If your suggestion is that the country would be better off by decommissioning the *Midway* and keeping the 16 frigates, I do not agree with that conclusion as a military officer. The capability of an aircraft carrier is so vastly different from the capability of 16 frigates that it is apples and oranges.

Senator STEVENS. Well, we are suggesting if you brought the *Midway* home, you could maintain the frigates and the *Midway*.

Admiral MUSTIN. We are suggesting that in order to keep the naval presence that we see necessary in the Western Pacific in order to keep the largest of the Soviet four fleets bottled up so that it will not spill out into the Pacific and attack the United States proper, we need to have an aircraft carrier battle group over there ready to deter and to do combat if deterrence fails.

That is our national strategy. We are also suggesting that if you want to do that with a carrier home ported in the United States anywhere, it will require three carriers in inventory to do that. Therefore, any cost discussions have to include the discussion of buying the two additional carriers and maintaining all three of them in inventory, and that is how we arrived at the cost effectiveness of the Japanese homeporting caper.

Senator STEVENS. I will have to look at this. We will have to talk about this some more another time, but I have to tell you I have some real questions about this budget, and I believe if I have those questions, that people who have not sat here for 17 years are going to have even more questions because these are judgments, for the first time, the Department of Defense has made the decision where to apply the cuts. We have been applying the cuts now for 3 years, and this committee primarily made the decisions, and you did pretty well. Now you have done it yourselves, and I am not sure you came out as well as you did when we made them, frankly. I really do not think you have.

Now, you guys, you are command officers, I know, but you have got to follow policy directions. I just think the policy involved in this budget is screwy.

Senator JOHNSTON. Senator Rudman?

COMMISSIONING OF "MIDWAY"

Senator RUDMAN. Well, on that optimistic note, I am curious, Admiral Mustin, was the *Midway* commissioned in 1945, 1946, or before that?

Admiral MUSTIN. I think that is right, 1945; yes, sir.

Senator RUDMAN. Just after or just before the end of the hostilities in August 1945?

Admiral MUSTIN. I do not know, Senator.

Senator RUDMAN. I wonder, in answer to the Chairman's question, if there is not just a little sentimentality involved here.

Admiral MUSTIN. We think we have gotten our money out of it.

Senator RUDMAN. I expect we have. I expect we have.

Admiral MUSTIN. She is a fine, proud lady.

Senator RUDMAN. But I would hate to look at what that cost compared to what the new carriers cost.

Admiral MUSTIN. Yes, sir.

Senator RUDMAN. I just have a few questions.

END STRENGTHS

General Shoffner, of the 8,600 end strength that you reduced, about 6,390, according to your submission, are attributable to cuts in combat forces and about 2,210 are from the support base. I am curious how you came out with that since the support base and the combat force is roughly 50–50 in terms of Army strength, and it tends to come out something in the vicinity of better than 2 to 1 in favor of cutting combat from support forces.

Can you tell me why that was done?

General SHOFFNER. Sir, I can give you some insights, I hope, on why that was done.

As you know, in our support and combat support portion of our force, we have had a fairly significant portion of that in the past that was unresourced, what we call Compo 4, recognized but unresourced requirements. The tooth-to-tail ratio has stayed about constant during this timeframe, and so as we went through with that, the belief was that we could not pare down more in the support side without putting at risk the combat forces that were there, and so we have tried to keep a balance in the cuts. As you know, it is about 50–50 for the total Army, but the ratio on the active size is different. We have transferred a fairly large portion of the support side to the Reserve component while increasing their paid end strength by almost 200,000.

That communicates to you our concern, I think, on dealing with the support side in trying to pull that up. That is different than your headquarters question, I think, previously.

What we tried to do was apply a balanced cut, and then apply it in such a way to minimize turbulence. Failure to activate some programmed forces for this fiscal year in my view is a smart way to take a cut, to minimize the turbulence on the people involved.

The other part was to try to make it in light of what the risk is. We have tried to keep our priority on the first to fight side, notwithstanding the cost of those forward deployed forces. So I think it is balance that has driven us to take a portion out of the support base as well as take some of the fighting force down as well.

PROCUREMENT

Senator RUDMAN. Let me ask a question addressed to each of you on the panel. I know that you are not responsible for procurement. On the other hand, you do sit at the highest levels of each of the services, so you have a counterpart who I am sure you meet with more than occasionally.

As we are looking at possible reduction in forces over several years, which the Secretary has alluded to, and which may be inevitable, and with a number of platforms either reducing—and I am talking about platforms for each of the services, be they aircraft, tanks, ships, or aircraft and helicopters—are the services starting to give some serious thought to increasing their dedication of resources to R&D and deployment of the force multipliers which industry says it can get for us if we want them? Such as the smart munitions which obviously give us the kind of qualitative advantage that we are talking about.

Are people talking about that in the various services? Because if we have a smaller number of resources, the more of these force multipliers we have within each of the services, be it on a Marine Corps tank or a Navy frigate, or on an Army Bradley fighting vehicle, the better off we will be.

SMART MUNITIONS

Is anybody talking about these things within the services because I have criticized severely over the last several years the relatively small amount of the total procurement and R&D budget going for truly what are historically referred to as smart munitions, which I do not have to tell all of you are getting smarter every year.

Why do we not start with General Shoffner and just work down the line. Just a brief answer will be fine.

General SHOFFNER. Sir, we are spending a fair amount of effort on that. Some of the programs are joint, some of them are unilateral. A good example of what I believe is in the category of a half-smart munition is the SADARM, which is a munition which enables us to get tremendous efficiencies on attacking, for example, Soviet artillery. We have made favorable decisions on that in the Army and OSD this year, and that is moving along.

That is a major step forward for us, and it has altered the way in which we procure conventional ammunition because we should be able to reduce those conventional stockpiles. So there are some indirect benefits for that as well.

A second example that I would tell you that is moving quite well is the fiber optic guided missile for attack of enemy helicopters or enemy tanks. The approved requirements for that particular munition were written in such a way that it will be equally capable against attack helicopters or against enemy tanks.

I think those two examples would indicate to you a serious commitment to bring that sort of technology which we believe is necessary to bring a competitive edge to the battlefield.

Admiral MUSTIN. Senator, we have managed to keep research and development funding at about 9 to 9½ percent of the total Navy budget, which has been historically about what we have invested.

Navy is a high tech service. There is no question but that smart weapons at sea are as we speak revolutionizing tactics and doctrine in every warfare area. The Aegis system is a system that, with forces under my command, enabled me to do things in antiair warfare that I could not have imagined as an ensign in the U.S. Navy. The F–14 can fly faster straight up than airplanes could fly straight down when I was an ensign. The Tomahawk missile gives a destroyer now the capability to strike targets deep inland where only a few years ago that was the private purview of manned aircraft. And the Tomahawk is now a key element of all of our contingency plans for real world operations.

We have brought in the Harpoon, we have brought in the *Los Angeles*-class attack submarines. We have brought in in every area the high tech weapons systems and the highly trained technicians needed to operate them, and we have paid for the spare parts necessary to maintain and operate and sustain this increasingly high tech Navy.

The one common denominator of all of these gee-whiz weapons—well, there are two. No. 1, they tend to win battles for you, and No. 2, they tend to cost a lot.

So we are right back on the horns of the dilemma that caused this hearing in the first place.

Senator RUDMAN. Admiral, they cost a lot, but once you purchase them you do not have to feed them, clothe them, and they do not get sick too often. I agree, and the Navy has done a good job, but I spent some time out in the gulf on the *Chandler* with Senator Stevens, and we talked to many of the crew and the officers. They are very satisfied with their weapons, but there is a general feeling in the Navy today that there ought to be more of those weapons on board because of the threat they assume.

I am making the general observation that as you look at declining force structures or stabilized force structures, that may be the time to consider what we do with the systems we have. That appears to be the point that you agree with.

Admiral MUSTIN. I agree entirely.

Also, I would say I never met anybody in the Navy that said he had enough weapons, and if you ran into anybody who said he did, I would be very concerned about his aggressive spirit.

Senator RUDMAN. I agree, but when you look at some of these ships and their deployments and you look what is on them, with all due respect to the enormous capability of the standard missile and some of the other things on board, they tend to be a little bit on the underweaponed side, if I may coin a phrase, according to a lot of people on board those ships who I think were quite reasonable.

We were impressed with what we saw.

Admiral MUSTIN. We wish we had more weapons in all the ships. And, of course, the way you design a ship takes into consideration basic affordability issues. So you are competing for real estate and for very expensive life cycle cost items to go into that ship, and that becomes a force mix and an affordability issue when we lay the keel.

Senator RUDMAN. Well, as we look this year to marking this up, platforms versus smart weapons, I am again this year going to look to see if we can increase the R&D in the smart weapons area because this is an area I am personally familiar with. I think I know what industry can do, given the time and the money. I believe that as we look into the early 1990's, smart weapons are going to become even more important than they are now.

General Mundy, I would ask you, have you recently been promoted?

General MUNDY. Sir, you must have read the back side of my sign.

Senator RUDMAN. Well, no. The Marine Corps is very efficient, and it must have ground this out a couple days ago. It says Maj. Gen. Mundy on your statement. I saw you have three stars, and I am sure you did not put an extra one on this morning without due authority.

General MUNDY. I was going to commend your subcommittee, sir, for being totally flexible. You had me geared either way. I could have come with three stars or I could have come with two stars.

Senator RUDMAN. I take it the answer to my question is yes, you were recently promoted.

General MUNDY. The answer is yes, sir. Yesterday, as a matter of fact.

Senator RUDMAN. Congratulations.

General MUNDY. And I appreciate the Senate's vote that got that done, incidentally. So thank you very much.

I have taken a lot of heat from my colleagues here until that got done.

Senator, we—I think, there is little to say about the precision guided munitions and related items that has not already been said. None of us have as much as we would like to have, as Admiral Mustin said. They are tremendously expensive; however, there is a tradeoff.

I would offer the grunt-eye view, if you will. While they are tremendously valuable on the battlefield, there is still a need for dumb munitions. An artillery unit that would be highly provisioned with or capable only of shooting precision guided munitions might pick tanks out one at a time for you, but you need that clutter of dust and dirt and rocks thrown in the enemy's face to get the other guy down in his hole, talking from a Marine's eye view.

Senator RUDMAN. I do not disagree with that, General. I am talking about the fact that when you look at what has happened in Afghanistan with relatively untrained forces and what they could do against the most sophisticated of Soviet helicopters with a U.S. weapon, it is startling.

General MUNDY. Yes, sir.

Senator RUDMAN. When you talk about force multipliers, who would have thought 20 years ago that a rag tag guerrilla army could do that kind of thing.

And that is the point.

General MUNDY. It is very impressive.

Senator RUDMAN. If you look at your budgets, not so much the Marine Corps, but the other three services, you will find that the amount devoted to smart weapons has been relatively stable and not increasing with the capability that American industry has developed in that area. That is something I want to ask you, and I will ask all the appropriate people.

General?

General DUGAN. With respect to weapons, I think Admiral Mustin mentioned in his opening remarks that not in his 33 years of naval experience had he seen the growth of weapons and the modern capabilities that he has seen in the past couple of years.

In order to continue to do that, the Air Force has an extensive program in terms of stealth technologies, manufacturing technologies, new materials, new sensors, computers, precision navigation schemes, some of which are related to the GPS global positioning system that will, in fact, be a cheap way of guiding weapons and getting them to certainly a satisfactory midcourse arrangement, and then one needs to look and find out what you want to pay to get kill against various classes of targets.

The Air Force total contribution to RDT&E for the present year and for the future is around 15 percent of our TOA. We are heavily committed to pursuing advanced technologies that makes our expensive manpower more efficient, and that capitalizes on those things where we have competitive advantages relative to our potential foes around the world.

SUBMITTED QUESTIONS

Senator RUDMAN [presiding]. The committee has additional questions which will be submitted for the record.

[The questions and answers follow:]

QUESTIONS SUBMITTED BY SENATOR JOHNSTON

Future Force Structure Reductions

A few weeks ago, you testified before the Senate Armed Services Committee that another $50 to $60 billion in force structure and other reductions will be needed to stay within the current 2% real growth fiscal guidance. Last week the Commandant of the Marine Corps testified that the Marine Corps might have to reduce three reinforced battalions to stay within the budget guidance.

Question: Mr. Secretary, what further force structure reductions are being examined?

Answer: The Military Departments are preparing to submit their programs to the Secretary sometime next week. Therefore, as I indicated in my statement, I cannot make specific predictions concerning force structure changes at this time. I can only say that, in general terms, under current resource constraints our forces may have to decline further if those that remain are to be ready, sustainable, and modernized.

Question: Are you aware of specific reductions in the number of Marine Corps combat units?

Answer: Again, I cannot provide you with specific force structure reductions until I have seen the Marine Corps program proposals.

Question: At what point will operating tempos need to be reduced to keep the current structure?

Answer: It is not our goal to reduce operating tempos in order to keep force structure. Instead, we try to strike a proper balance. That is, we must be able to operate the forces we have at a level that keeps them ready to accomplish their missions. Furthermore, other factors, such as sustainability,modernization, and mission priorities, also have an impact on how our resources are allocated. In some cases, we may be able to or may have to retain both the force structure and the level of operating tempo.

Force Structure Change Process

Mr. Secretary, the Chief of Naval Operations testified last week that he did not recommend decommissioning sixteen frigates. Other Services have implied that force structure decisions were solely the recommendation of the Office of the Secretary of Defense.

Question: Could you please explain the process that led to force structure changes in the 1989 budget? How were these specific forces selected? Were force structure decisions made solely by the Office of the Secretary of Defense?

Answer: The process was generally the same as that used for the budget reduction exercise as a whole. First, Secretary Carlucci and I issued guidance to the Military Departments specifying the size of their reductions and that readiness, sustainability, and essential modernization were to be protected, at the expense of marginally effective force structure and lower priority acquisition programs. Next, the Military Departments responded with reduction proposals in their Amended Budget Submissions (ABS). These were then reviewed by the OSD, JCS, and CINC staffs. Major issues were identified and discussed with the Chairman of the JCS, Service Secretaries, Service Chiefs, and the CINCs, as well as with OSD staff principals. Alternatives that included the Service positions and the positions of others were then incorporated into a set of about a hundred Program Budget Decisions that I reviewed and decided, after consulting with Secretary Carlucci on the more important ones. Finally, we had a series of sessions with the Service Secretaries and Chiefs, along with the Chairman of the JCS, to discuss and decide the residual issues of most concern to them. This was an orderly, open process that illuminated all valid arguments and points of view fully.

Throughout the process we also had to evaluate the increased amount of risk associated with each of the cuts. As much as possible, we tried to identify and make cuts in areas that will hurt us the least. Here are some examples of our rationale for several key decisions.

The cut in the Navy Frigate force was made because those ships had obsolete ASW equipment and only marginally effective AAW systems. Their contribution to both of these naval missions was limited. In addition, they are old and have troublesome propulsion plants. We plan to retire 8 frigates in FY 1988 and 8 more in FY 1989. It is noteworthy that these specific ships were nominated for considerably lower manning status by then-Secretary Webb in the Navy's ABS. This would have produced smaller savings and would have sacrificed most of the capabilities these ships possess. A later alternative that would have added these ships to the Naval Reserve was also rejected, largely because we thought the Reserves would have difficulty operating their power plants. The cut of a Navy air wing was due to the fact that 13 active wings and two reserve wings could cover the number of carrier decks available. We will begin to deactivate the air wing in FY 1989.

As for the Air Force, we tried to retire older, obsolete aircraft sooner, while maintaining a 2:1 active-to-reserve force ratio. This causes a reduction of aircraft (PAA) in the Guard and Reserve. The advanced tactical fighter and a variant of the Navy's advanced tactical aircraft will provide new capabilities to our future tactical air forces. Providing for these capabilities is a higher priority than continuing to operate forces equipped with older aircraft in the short term. We will begin deactivation of an air wing in Spain in FY 1989 and complete it in FY 1990. We will reduce the size of 12 Reserve and Guard tactical fighter squadrons by FY 1991.

Regarding the Army, we made force structure reductions to prevent erosion of hard-earned readiness. We tried to reduce combat units with the lowest priority in order to protect heavy mechanized and armored forces critical to success against our primary adversaries on the modern battlefield, essential rapid reaction forces, and combat service support forces. The Army's brigade and battalion reductions will take place in FY 1989, while retirement of obsolete aircraft is scheduled for FY 1990-1994.

In the strategic area, we retired a Poseidon submarine rather than having to overhaul it later. It also carried the less effective C-3 warheads. We will begin the submarine's deactivation in FY 1989 and will complete it by the end of FY 1990. In addition, we recommend cutting the Small ICBM, because we do not feel that having two mobile ICBMs is affordable or cost effective. We feel that the Peacekeeper missile in rail garrison mode fully meets all requirements and is far more cost effective than the Small ICBM.

Who Makes Force Structure Decisions?

Mr. Secretary, the Subcommittee originally requested and Office of the Secretary of Defense (OSD) witness below your level to testify on force structure.

Question: Who in OSD is responsible for determining force structure besides Secretary Carlucci and you?

Answer: Secretary Carlucci and I, of course, have the final say on all Defense force structure decisions. The process of reaching a final decision, however, includes all the major players -- the Service Secretaries, the Service Chiefs, the Chairman of the JCS, and the CINCs, as well as the OSD staff principals. In reaching force structure decisions, the Secretary and I receive inputs on equipment, personnel, operating costs, and the nature of the mission, just to name a few. Which OSD officials influence such decisions depends on the nature of the decisions to be made.

Force Structure Process/Priorities

Question: What is the role of the Assistant Secretary for Force Management and Personnel in determining force structure?

Answer: Per DoD Directive 5124.2 the Assistant Secretary of Defense for Force Management and Personnel (FM&P) is responsible for total force structure analysis as related to quantitative and qualitative manpower requirements, utilization, readiness, and support. FM&P is also responsible for the allocation of the total force manpower among DoD Components and between the active and reserve components within the Military Departments. In carrying out these responsibilities, FM&P works with the staff of the Assistant Secretary for Reserve Affairs and the Director for Program Analysis and Evaluation to take advantage of their staffs' specialized skills.

The Assistant Secretary for Force Management and Personnel has initiated a review of how manpower mix has been affected by force structure decisions made during the last ten years. His objective is to determine the adequacy of FM&P guidance to ensure that appropriate manpower mix decisions have been made and will continue to be made. This review will help insure that appropriate oversight processes are in place to check that manpower and force structure are in balance.

Force Structure Documents and Data

Mr. Secretary, in preparing for this hearing, we found few documents that provided data on U.S. force structure. We found data on Soviet force structure more readily accessible.

Question: Is there an annual document/data base that provides detail on U.S. force structure and changes in the force structure? Who in OSD manages force structure data and validates the information?

Answer: Force structure guidance and data are provided in several recurring documents within the Department of Defense. Some of these are part of our internal management process, such as force tables provided to the Services in our working level guidance documents. Others are provided to Congress in the annual budget process, such as the force tables provided in the Five Year Defense Plan (FYDP) and in the Secretary's Annual Report to Congress.

As for specific individuals, in a general sense, the Assistant Secretary of Defense for Force Management and Personnel monitors and validates force structure information, but several other OSD staff offices play major roles in this regard in their specific areas of responsibility.

Question: If OSD does not have a system which accounts for actual force structure levels, how were you able to come up with the specific force structure decisions that were incorporated into the budget?

Answer: As I explained above, we do issue guidance on force structure levels and track how well the Services comply with that guidance.

NAVY FRIGATES/CARRIERS

Mr. Secretary, the budget includes decommissioning of 16 Navy frigates. This delays attainment of a 600-ship Navy.

QUESTION: Under your current plan, when will a 600-ship Navy be achieved?

ANSWER: Under the currently approved shipbuilding plan, we will attain a sustainable 600-ship Navy in the late 1990s.

QUESTION: Why did the Defense Department choose to retire 16 frigates that are only about twenty years old, instead of older ships such as the carrier USS MIDWAY or USS CORAL SEA, or DDG-2 Class ships?

ANSWER: Useful service life is dependent upon capability against the current and projected threat as well as age and material condition. The frigates were selected for retirement in light of their limited capability and the need to maintain a balanced fleet.

QUESTION: Will the Defense Department be examining retirement of one or more carriers in 1990 to live within lower outyear funding objectives?

ANSWER: Yes, the retirement of one or more carriers has been examined within the Defense Department as well as by GAO and CBO. To quote Secretary Carlucci from his letter to Senator Kennedy, Chairman, Subcommittee on Projection Forces and Regional Defense of the Senate Armed Services Committee of 23 March 1988:

"Very few other force requirements have received the extensive study and analysis that the required number of carrier battle groups have. A 15 deployable carrier battle group Navy is the floor, not a ceiling, for required force level. I have supported this requirement in the past, do so today, and (as long as the threat and commitments are not reduced) will do so in the future. It is my belief that the requirement to achieve a 15 deployable carrier battle group Navy at the earliest opportunity remains valid and we should continue to pursue it aggressively."

The fifteen deployable carriers will be achieved in FY 1990.

DoD Interdiction Support

Question: Will the Department of Defense continue to provide the same interdiction support after these frigates are decommissioned?

Answer: The removal of these frigates from the active inventory does not signal any reduction in the Department's commitment to drug interdiction. We will, in cooperation with the Vice President's

National Narcotics Border Interdiction System, continue to respond to requests for assistance from drug law enforcement agencies and, as in the past, our response will utilize available ships or aircraft. Overall, frigates do figure prominently in our support of drug interdiction; however, these particular frigates were not heavily utilized in drug interdiction and their decommissioning will not appreciably alter the Department's ability to respond positively to drug law enforcement agencies' requests for support.

Overseas Force Structure Reductions

Mr. Secretary, you are reducing force structure largely because of pressure on operating funds. Yet, much of this pressure is caused because of the number of troops we maintain overseas. In 1988, the Department has an unfunded requirement of over $1.5 billion specifically linked to the cost of operations overseas. Yet, with the exception of the wing at Torrejon, Spain, all force structure cuts are in the Continental U.S.

Question: Mr. Secretary, why aren't these reductions allocated more equally between the U.S. and forces overseas?

Answer: As I mentioned previously, I am heading a task force to examine the question of burden sharing with our NATO Allies, Korea, and Japan. We will be looking closely at our overseas force structure, in terms of both weapons and personnel. We may find that it makes sense to change our force structure overseas, but I think it would be a mistake for us to unilaterally adopt any reductions there at this time. I intend to report some of our interim findings to the Congress and to get you inputs before making our final decisions. It would be premature to make these decisions now.

QUESTION: Why don't we get the "allies" to pick up a greater burden?

ANSWER: We are actively working with all of our allies to develop a division of responsibilities and a resources strategy that makes a more effective use of available defense resources through identifying key deficiencies, establishing priorities, and improving longer term planning. This includes a number of efforts to enhance Host Nation support to U.S. Forces stationed overseas. The Japanese, for example, have already pledged to increase defense support for U.S. forces in Japan. The 1988 Japanese defense budget contains $100 million in increased facilities and labor cost sharing in support of U.S. forces in that country. Tokyo already provides us with the most generous Host Nation support arrangement of any of our allies, some $45,000 per U.S. serviceperson. The Japanese Government plans to increase labor cost sharing even more in the next two years.

Question. Mr. Secretary, what are the Department's current plans for the personnel assigned to the Pershing II and Ground Launched Cruise Missile systems? Will these spaces be brought back to the U.S. or left in Europe for other missions?

Answer. While the INF Treaty benefits both the United States and the USSR, it will place a greater burden on conventional forces in Europe. In Europe, there have been long-standing deficiencies in our forces compared to the Warsaw Pact, particularly in fire support. Consequently, the Army plans to continue to modernize its forces in Germany with emphasis on fire support, and to increase combat service support (CSS) structure, which is currently below that minimum essential to sustain the forward deployed combat forces in time of conflict. The Army plans to use the majority of current Pershing II force structure to man Artillery and CSS units and, to a lesser degree, increase the fill of other selected units, thereby enhancing combat effectiveness.

Personnel Assigned to Ground Launched Cruise Missile in Europe

QUESTION: Mr. Secretary, what are the Department's current plans for the personnel assigned to the Pershing II and Ground Launched Cruise Missile systems? Will these spaces be brought back to the U.S. or left in Europe for other missions?

ANSWER: The Air Force's plan for its personnel assigned to GLCM is still pending, however the manpower spaces associated with GLCM will be eliminated. Currently, JCS and the Air Force are studying various options to backfill deactivating GLCM units. Follow-on missions at these locations would allow us to utilize some existing personnel and facilities, thus enabling us to maximize savings while maintaining the desired force structure in Europe. Until that time when a follow-on is determined, we are unable to make a final "game plan" for the personnel involved.

FORCE STRUCTURE AND O&M FUNDING

QUESTION: Secretary Taft, if the Congress goes along with force structure changes, how do we have any assurance that the savings will be put into maintaining a ready force and not diverted into MWR or questionable programs like leather jackets for pilots?

ANSWER: The Department made reductions to force structure to live within the reduced funding levels agreed upon in the Budget Summit. Therefore, savings are not available to finance other programs. Force structure was reduced in lieu of operating tempo, maintenance, etc. specifically to protect readiness and to avoid a hollow force.

QUESTION: Why are operation and maintenance costs going up while force structure isn't growing?

ANSWER: Operation and Maintenance costs are not driven solely by changes in force structure. For example, Army and Air Force operating tempo were reduced in FY 1988 to live within the constrained funding levels. FY 1989 includes increases to bring the operating tempo back up to prior years levels. Additionally, increased funding is requested to avoid continuing some of the FY 1988 deferrals in maintenance and base support. Operation and Maintenance cost increases also reflect price growth for civilian pay raises, inflation, and industrial and stock fund rates. Funding requirements also increase with the fielding and operation of new equipment.

QUESTION: Mr. Secretary, Air Force operation and maintenance increases by over $2 billion from 1988 to 1989, while Navy operation and maintenance increases by only $237 million. Given that the Navy is the only service that grew and is still growing force structure, why does your 1989 budget provide the Navy's operation and maintenance budget with the lowest amount of growth.

ANSWER: The Air Force increase in FY 1989 is partially to restore the severe Congressional reductions sustained by the Air Force in FY 1988. Although both the Navy and the Air Force have negative program growth in FY 1988, the Air Force program growth was a negative $1.2 billion compared to a negative $.8 billion for the Navy. In addition, the force structure changes for the Navy begin in FY 1988 so that significant savings are realized in FY 1989. Air Force structure changes are scheduled for late in FY 1989. Therefore, real savings don't begin until FY 1990 and beyond.

TACTICAL AIRCRAFT PRODUCTION RATES

QUESTION: Secretary Taft, the Air Force had planned to increase from 37 to 40 tactical fighter wings, but now is decreasing to 35. Will the Department be decreasing aircraft production rates accordingly?

ANSWER: Production rates and force structure requirements will be examined carefully and adjusted, if necessary, to ensure a balanced, capable, and modern force that is affordable.

Army Force Structure/Aviation Procurement

QUESTION. What impact did force structure changes have on fiscal year 1989 Army, Navy and Air Force aircraft procurement?

ANSWER. No impact on Fiscal Year 1989 procurement quantities as a result of force structure changes.

QUESTION: What impact did force structure changes have on fiscal year 1989 Army, Navy and Air Force aircraft procurement?

ANSWER: Answering for the Air Force, the reduction in overall force structure does not equate to reduced aircraft procurement. Our objective is to field a smaller yet fully robust and combat capable force hinged on currently stated procurement goals. These procurement levels permit us to bring new capabilities into the force, accelerate the retirement schedules of older aircraft and modernize our Guard and Reserve forces at a higher rate. For example, we made a conscious decision to reduce the tactical forces to 35 tactical fighter wings. The annual procurement rate required to sustain this reduced force with acceptable average age and modernization is approximately 210-230 aircraft. The request for 180 F-16s and 36 F-15Es is within this range.

F-16 REQUIREMENT

QUESTION: The Air Force plans for tactical aircraft assume 100 aircraft per wing with an average life of 20 years. Given your decision to shrink to 35 tactical fighter wings, this reduces the annual procurement requirement from 200 to 175 fighter aircraft to achieve the necessary force. Why is the request for 180 F-16s and an additional 36 F-15Es still valid?

ANSWER: The annual procurement rate required to sustain a 35 tactical fighter wing force with an average aircraft life of 20 years is approximately 210-230 aircraft. The request for 180 F-16s and 36 F-15Es is within this range.

F-16 MULTIYEAR PROCUREMENT

QUESTION: In fiscal year 1989, the budget request includes advance procurement for a new multiyear contract to buy 180 F-16 aircraft each year. With the decisions to delete F-16 wings at Torrejon and Nellis, and the uncertainty of multiyear funding, why is it still prudent to buy 180 F-16 aircraft per year under a multi-year buy?

ANSWER: The FY 88/89 amended President's Budget requests a MYP III for 630 aircraft, and includes an Advance Buy request of $588.7 million in FY 89. This Advance Buy includes an Economic Order Quantity (EOQ) of $132.1 million to support MYP III in years FY 90-93 at the annual quantities of 180, 180, 150, 120 respectively. These quantities of F-16s will continue to modernize the multi-role fighter force of both our active duty and reserve wings, while allowing for the retirement of aging F-4 aircraft. Additionally, the procurement of new F-16s is required for planned introduction into new mission areas such as Air Defense and Suppression of Enemy Air Defenses, again replacing older and less capable aircraft. The number and mix of fighters to be procured is evaluated for each budget submittal based upon operational requirements, force structure, and fiscal realities. While the number of F-16 aircraft may decrease in the FY90-93 procurements, the Air Force will continue to sponsor a multiyear procurement for the F-16 in order to benefit from the significant savings of a combined four-year business base. The savings will be large and the negotiated savings will probably exceed the estimate.

F-15E PRODUCTION RATES

QUESTION: Mr. Secretary, in your testimony a few weeks ago, you noted that F-15E aircraft production rates were decreased from 42 to 36 aircraft because of budget constraints. Is there a relationship between force structure changes and the reductions in the F-15E production?

ANSWER: No, the reduction in F-15E aircraft production rates is solely a result of budgetary constraints. F-15E remains a top priority. It's vital to force structure and augments the limited quantity of both long range interdiction and dual-capable aircraft. Furthermore, its multi-role capability gives theater commanders flexibility to supplement air defense forces.

F-15E PROCUREMENT PLANS

QUESTION: Do you still plan to purchase 392 F-15E aircraft for the Air Force, or will this level be reduced in recognition of cost constraints or force structure changes?

ANSWER: We have not changed the total planned F-15E buy from our goal of 392. Budget constraints have forced us to reduce interim procurement rates. Nevertheless, we continue to study various procurement plans and strategy for FY90 and beyond to buy the required F-15E force in the most efficient and economically feasible manner consistent with the current fiscal climate.

GUARD AND RESERVE VS. ACTIVE FORCES

Question: Secretary Taft, given that Guard and Reserve are so effective for a fraction of the cost, in a period of budget cutbacks why didn't the Department protect or even build force structure in the Guard and Reserve? Wouldn't this maintain force structure and save funds?

Secretary Taft: In many, but not all areas, the Guard and Reserve can effectively assume missions at a lower cost. This is due to lower personnel cost for a part-time force. Other costs such as equipment are essentially the same. There are a multitude of factors including peacetime vs. mobilization activity requirements, the need for an active duty rotational base for overseas deployments, and time from mobilization to deployment, which must be considered, in addition to cost. During the severely restricted time for development of the FY 1989 amended budget, extensive force mix changes could not be considered.

We now have an ongoing force mix review being conducted by the Assistant Secretary (Force Management and Personnel) assisted by the Assistant Secretary (Reserve Affairs) and the Director, Program Analysis and Evaluation. We plan to use the results of this review during the forthcoming program and budget reviews.

QUESTION: There appears to have been a conscious decision to increase O&M for the active Air Force and Army, but not for the Guard and Reserve. Secretary Taft, how much of the savings from force structure reductions was plowed back into operating tempo? How much was given to the Guard and Reserve, if any?

ANSWER: The savings from force structure reductions were used to reach the lower budget authority levels agreed to in the Budget Summit Agreement. There were no funds available to plow back into either the active or the Reserve accounts.

Navy Aircraft Carrier Force Structure

Mr. Secretary, the decision to stand down the 14th active duty carrier air wing raises questions about the overall goal of 15 carrier battle groups.

Question: Can you explain why there is not a mismatch between the continued emphasis on reaching 15 deployable aircraft carriers, and the decision not to have 14 active aircraft carrier wings?

Answer: Not all of our carriers are deployed or available for deployment all the time. In order to keep our carrier force ready to fight, some portion of it is usually in overhaul or in SLEP. We are able, therefore, to cover the number of carrier decks available with thirteen active air wings and two reserve air wings.

Question: Wouldn't the decision to scale back air wings make more sense from force structure requirements if the Navy had retired one of its older aircraft carriers?

Answer: No, it would not. Cutting an aircraft carrier from the force structure would make it more difficult for us to field a ready and capable carrier force, and hence, more difficult for us to meet our commitments worldwide. Reaching the goal of fifteen carrier battle groups is a very high priority for our Navy program.

QUESTION: If reserve forces are viable for providing the air wing, why isn't a Navy Reserve carrier a plausible alternative to maintaining 15 active aircraft carriers?

ANSWER: A reserve carrier would not effectively contribute to the requirement for 15 deployable carrier battle groups for the following major reasons:

- SELRES drill once a month on a weekend, for two weeks active duty annually, and experience 40 percent annual turnover.
- Size and complexity of the carrier, crew qualifications necessary to provide safe flight operations, and required continued preventative maintenance dictate 80/20 active/reserve ratio to ensure OPREADY condition for contingency deployments.
- Reserve carrier would be unable to make regular peacetime deployments to Mediterranean, Western Pacific, or Indian Ocean.
- Reserve carrier limited deployment availability decreases number of deployed carriers below five required.
- OPTEMPO of remaining active carriers would increase to cover commitments.
- Reserve carrier could not be deployed for combat except in declared national emergency (mobilization).
- Initial warfighting capability would be decreased.
- Carrier would have to be homeported in a major metropolitan area to provide a naval reserve population able to support manning requirements.
- Large numbers of dedicated C-9 weekend airlifts would be required to support size/skill mix of the SELRES component.
- Transfer of an aircraft carrier to the Navy Reserve causes loss of operational capability and flexibility that is not offset by any real cost savings. It would be the same as reducing the carrier force by one, requiring the remaining CV force to absorb the full range of commitments.

QUESTION: What is the impact on Navy aircraft procurement of the decision to not stand a 14th carrier air wing?

ANSWER: The decision to decommission the 14th carrier air wing was driven primarily by manpower considerations rather than aircraft shortfall and procurement issues. Recent manpower controls have resulted in naval aviation manpower reductions of 712 officers and 2,925 enlisted personnel. In the past, these reductions have been applied so as to minimize the impact on fleet forces.

The 14th carrier air wing stand down, however, was necessary to avoid stretching manpower too thin, and it has no impact on aircraft procurement. The FY-89 APN request is required to support the force structure and modernization goals of the Navy and Marine Corps. By standing down the 14th carrier air wing for a specific period, the tactical aircraft inventory shortfall is reduced to a more manageable level.

QUESTION: Can F/A-18 and other aircraft procurement be curtailed in relation to this decision?

ANSWER: Programmed F/A-18 procurement is required to support modernization goals and a force structure of 25 USN, 15 USMC, 4 USNR, and 8 USMCR squadrons by the end of FY 1996. Projected F/A-18 inventory shortfalls are expected to be as high as 100 aircraft in FY 1992. The FY 1989 APN is required to maintain manageable inventory shortfalls through the FYDP.

QUESTION: The decision to end A-6 production is very controversial. Is it correct that termination will cause a shortfall in meeting the Navy's attack requirements? If so, in what years and by how many aircraft will the shortfalls occur?

ANSWER: Termination of A-6 production does cause some additional shortfalls. However, they can be managed by delaying the standup of some USS ROOSEVELT type carrier air wings. The following is a summary of Navy requirement/inventory deltas through the FYDP.

	89	
A-6	+12	(Deleted)
F/A-18	-19	(Deleted)
A-7	+16	(Deleted)
TOTAL	+ 9	(Deleted)

Deltas are based on full requirements including pipeline. F/A-18 shortfalls are due to the transition of the last eight A-7E squadrons in FYs 1991 and 1992. These transitions are concurrent with CV/CVN F/A-18 conversions. New F/A-18C Bureau Numbers are identified for these squadrons.

These attack aircraft shortfalls will continue to be managed by proven initiatives of minor force adjustments, selective utilization of USMC squadrons in carrier air wings and delay of modernization programs.

GUARD AND RESERVE COMBAT STRENGTH

QUESTION. General Shoffner, your testimony points out that the decision to inactivate a brigade of the 9th Infantry Division and not activate two battalions in the 6th Light Division will require greater reliance on Guard and Reserve "roundout" brigades. The 1989 Guard and Reserve budgets, however, do not contain any manpower growth.

Where will this Guard/Reserve manpower come from? Are we looking at reductions in existing Guard and Reserve units to reallocate this manpower?

ANSWER. The 81st Infantry Brigade (Separate)(Mechanized), WA Army National Guard (ARNG), will "roundout" the 9th Division. The Alaska ARNG will activate one Light Infantry Battalion for the 6th ID(L) in FY89. Initial manpower for this new battalion will come from current Alaska ARNG units. Because the Reserve Component end strength for FY89 was fixed, by Act of Congress at the FY88 level, manpower for this battalion will be limited to available over-strength in Alaska units.

ROUNDOUT UNIT EQUIPMENT

QUESTION. General Shoffner, roundout units have significantly better equipment and training funds than non-roundout units.

Have the Army's procurement and equipment distribution plans been amended accordingly to assign higher priority to these roundout units?

ANSWER. Priorities for equipment distribution are based on the Department of The Army Master Priority List, which in turn is based on Latest Arrival Date in theater. That is, first to fight units have the highest priority for new equipment fieldings. Roundout units are assigned the same priority as the unit they will round out and therefore get the newest equipment with their counterparts.

FORCE STRUCTURE REDUCTIONS

Question. General Shoffner, of the 8,600 end strength reduced by the Army, 6,390 is attributable to cuts in combat forces and only 2,210 is from the support base. Given the Army is about half combat and half support, why weren't more reductions allocated to the support base?

Answer. Actually the cut in combat forces is around 4,000 or about 46-48 percent. The exact figure will not be known until final decrements to the Aviation structure are completed. About 15 percent of the 2,214 Aviation reductions are in the TOE Army (warfighting forces). The remaining 85 percent will be from the sustaining base.

HELICOPTER RETIREMENTS

QUESTION. General Shoffner, the Army budget retires 620 OH-58 and UH-1 helicopters. What impact will these retirements have on procurement and pilot training loads?

ANSWER. The Army is currently developing the retirement plan for these aircraft. How the aircraft are retired (i.e. FMS, storage, war reserve, other government agencies, property disposal yard, etc.) will determine the cost, if any, associated with retirement. This cost subtracted from savings obtained from not operating the aircraft will be applied against the level funding concept of $3.4B for the Army Aviation Modernization Plan (AAMP) to cover Research, Development and Acquisition of Army aircraft. The aircraft retirements will have no effect on reducing the number of aviators we must train. The reductions will only serve to reduce the overstructure of pilots in the Army, allowing more of the authorized positions to be filled.

RETIRING 16 FRIGATES

QUESTION: Admiral Mustin, please give an assessment of how much combat capability the Navy will lose by retiring sixteen frigates. Aren't the ships mainly performing law enforcement missions because they are less combat capable and sustainable?

ANSWER: An example of the effects of force structure reduction can be seen in the case of the proposed early retirement of 16 FF-1040 class frigates. Frigates operate in peacetime across the whole spectrum of naval operations, but are particularly important for wartime escort missions, as was pointed out in CINCLANT's comments on the battle of the Atlantic. For wartime convoy escort, SACLANT has determined a need for 112 frigates. With the forces allocated to SACLANT now, he can only provide 52 convoy escort frigates. If nine of the 16 1040 and FFG-1 class frigates were removed from convoy escort availability, NATO's convoy escorts would shrink by 17% and the U. S. contribution to convoy escort would be cut by 47%. When considered in the context of the overall wartime requirement (112 frigates) you can see that any reductions increase the risk in wartime. Law enforcement is not a Navy "mission." The Navy performs law enforcement operations on a "not to interfere" basis. Frigates that contribute to drug interdiction operations, like other Navy assets, do so in the course of regular training, readiness and presence deployments.

NAVY/MARINE CORPS

QUESTION: Admiral Mustin, between 1980 and 1988 the average age of Navy battle-force ships increased from 14.7 years to 17.3 years per ship. Why is the average age increasing, are we retiring ships beyond their scheduled retirement to reach the 600-ship Navy?

ANSWER: The average age of the fleet has increased because we built ships in large numbers during the period from 1960 to 1968 and these ships are now approaching the end of their useful service lives. The average age of the fleet will stabilize in the next few years. If we build 18-20 new ships per year, consistent with the FY 1988/1989 Five Year Shipbuilding Plan, we can replace our older ships as they become obsolete and no longer economical to maintain. This building rate will sustain a 600-ship fleet indefinitely, given our current planning factors.

QUESTIONS FOR MILITARY WITNESSES

QUESTION: General Mundy, what are the effects for the Marine Corps end-strength reductions in 1988/89? Where will these reductions be made and how much combat capability will the Marine Corps lose?

ANSWER: The end-strength reduction of 2,900 from our programmed fiscal year 1989 end-strength will force us to cadre the equivalent of three reinforced infantry battalions. This equates to 11% of our infantry combat power. We made that decision in conjunction with a review of our force structure with the retention of well-equipped and highly manned combat forces as the priority. The structure review presented the Marine Corps with an opportunity to increase manning within certain combat units and overall readiness while adjusting forces to be better prepared for the most likely potential conflicts.

QUESTION: General Mundy, last week General Gray testified that the Marine Corps might have to reduce three reinforced battalions to stay within budget targets. Could you elaborate on this issue? What type of force structure changes is the Marine Corps examining?

ANSWER: The decision to reduce active-duty strength was driven by budget considerations rather than analysis of the structure and end-strength necessary to perform assigned Marine Corps missions. We were directed to make overall budget reductions of a certain size, and realized that reductions to our Manpower costs would be necessary if we were to achieve the necessary savings without unacceptable damage to other Marine Corps accounts. The required Manpower savings could only be achieved by reducing end-strength or destroying programs essential to maintaining force quality. We chose to maintain quality and reduce the size of the force.

After we determined the end-strength reduction necessary to achieve the required savings, we analyzed the impact of that reduction on manning and force structure. We conducted a thorough structure review with the reduced end-strength. The reduction of 2,900 end-strength from our fiscal year 1989 programmed strength will require us to cadre three reinforced infantry battalions or 11% of our infantry combat power. We will still be able to perform our assigned missions, but the degree of risk will increase.

In addition, we are enhancing the force structure and manning of the remaining infantry battalions, light armored vehicle battalions, and surveillance, reconnaissance, and intelligence units. We are transferring portions of heavy forces - such as artillery and air defense - to the reserves. The net result will be a total force - active and reserve - that remains fully capable. The active force structure will be lighter, better manned, and ready.

FORCE STRUCTURE CHANGES AND IMPACTS

QUESTION: Secretary Frank Carlucci stated last month that, as a result of cuts in Air Force funding, the force structure will be reduced by one and a half wings in FY89. He also noted that, "Additional aircraft in several different reserve squadrons will be cut in FY 1990, leaving us with 35 tactical fighter wings." The Air Force currently has almost 38 tactical fighter wings. How will the proposed reductions in tactical fighter wings affect the procurement and operating costs of Air Force tactical aviation during the next five years? To what extent do these force reductions in tactical air capabilities reflect revised estimates of international threats and to what extent do they arise from budgetary constraints?

ANSWER: Tactical fighter aircraft procurement is currently under study and has yet to be finalized. Once all planned reductions are complete, the tactical fighter force structure will be 35 tactical fighter wing equivalents, down from the present 38. Once these reductions are complete, annual savings will be nearly $500 million. These reductions were made purely for budgetary reasons.

GUARD/RESERVE AIRCRAFT

QUESTION: General Dugan, please explain the rationale for reducing 12 Guard and Reserve tactical squadrons from 24 to 18 aircraft by the end of 1991. The Guard and Reserve currently sign up about 40 percent of Air Force pilots within three years after they leave the Air Force. The Air Force currently invests about $6 million in a fighter pilot with ten years of experience. If the Air Force reduces the Guard/Reserve, these pilots will have fewer opportunities to stay in the total force, and our investment will be lost. Why is the Air Force proposing to cut the Guard and Reserve? Won't this further exacerbate the Air Force pilot attrition problems by eliminating spaces that will retain Air Force pilots in the total force?

ANSWER: These reductions were programmed to maintain the current active to Guard/Reserve fighter force structure mix at approximately 2/3-1/3. This mix has evolved with the total force concept from the early 1970s and is the result of many long-term factors interacting to establish the force structure mix at an equilibrium of about 2/3 active to 1/3 Guard/Reserve forces. Some of these factors are: active forces Continental U.S. (CONUS)/overseas balance, operational tradeoffs, personnel turbulence, force structure programming and dollar savings. In order to support our national forward deployment strategy, overseas active duty units are required. Correspondingly, active CONUS forces are needed to support training requirements, provide a rotation base to keep overseas tour length and numbers at a reasonable level, and to respond to contingencies where it may not be appropriate to use the Air Reserve forces. This balance of active CONUS/overseas forces has proven to be critical and there are serious implications if it is upset. Not only would overseas tours per individual increase, but history indicates definite negative pilot retention impact when frequency of overseas tours increases.

The loss of tactical fighter spaces in the Guard/Reserve does mean that the Guard and Reserve will be able to accept fewer of the pilots separating from active duty before retirement. Because the Guard and Reserve will use their displaced crews to fill those few vacancies occurring in their remaining aircraft, the absorption of pilots separating from active duty may drop below the historical rates of 30 to 40 percent quoted by the Guard and Reserve.

AIR FORCE CAPABILITIES

QUESTION: General Dugan, Air Force aircraft inventory hasn't increased much since the early 1980's. Aircraft, however, underwent significant modernization. How much more capable is the Air Force today than in 1980?

ANSWER: Our Air Force is more capable of performing its mission today than it was in 1980, even in light of the significant growth of the threat. Our Air Force is more capable now than in 1980 because we have more aircraft (d) more combat coded fighter/attack aircraft), we have more capable aircraft (F-15, F-16 vice F-4), and we have better munitions (GB-15, IIR Maverick, HARM, AIM-9M, AIM-7M vice GBU-10, M-82 Bombs, SHRIKE, AIM-7E). This combination of more and better aircraft with modern munitions is further enhanced because we can generate more sorties because of greater aircraft reliability and maintainability. Additionally, better training, increased aircraft performance, and improved electronic combat equipment on our fighter and attack aircraft improve our survivability. All these factors significantly increase our effectiveness, and we think they have a synergistic, not just additive effect to our capability. Measuring how much better our Air Force is today than in 1980 is complex and is driven by scenario, threat, and numerous other variables, but certain key indicators can be used to illustrate our improved capabilities. In the air to air arena, we have improved our capability (d). An F-15/F-16 air-to-air sortie is [deleted] against the Soviet 1988 threat than an F-4 sortie. In the air-to-ground arena we can destroy over [deleted] [deleted]. We can generate (d) more fighter/attack sorties over a (d) day period. In short, we can put up more aircraft, fly more sorties, and each sortie we fly is more survivable for us and lethal to our adversaries. The improved quantity and quality of our force allows us to better execute our military strategy in support of our national objectives.

AIR NATIONAL GUARD AIRCRAFT CONVERSION

QUESTION: General Dugan, among the unit changes proposed for 1988 is the conversion of an Air National Guard unit at Hancock Field from 24 A-10s to 18 F-16s. Has the mission of this unit changed? If not, does this indicate that the Air Force intends to begin replacing more A-10 attack units with F-16s?

ANSWER: The conversion of the Hancock Field unit from the A-10 to the F-16 was a programmatic decision which permits the introduction of the OA-10 forward air control aircraft into the Air National Guard and continues ANG force modernization by permitting the retirement of older, less capable OA-37 aircraft. A decision to replace the A-10 force with the F-16 has not been made. The Close Air Support Mission Area Group (CASMARG), established by Secretary Taft in 1986, is studying close air support alternatives to the A-10. The results of this study are expected this July.

F-16 CLOSE AIR SUPPORT STUDIES

QUESTION: What studies have been done to demonstrate that the F-16 is the best follow-on aircraft to the A-10 for conducting close air support?

ANSWER: The Air Force requirement to procure a follow-on to the A-10 is based upon threat improvements and the dynamic nature of the 1990's non-linear battlefield as defined by Air Force and Army doctrine. The requirement is for a capability to conduct rear, close, and deep close air support (CAS) and battlefield air interdiction (BAI). The ability to perform both CAS and BAI provides flexibility to the Joint Force Commander and allows him to leverage air power where and when needed in support of surface operations and his theater campaign. Therefore, the follow-on A-10 studies, both completed and ongoing, are based upon these requirements and not the 1970's view of CAS occurring along a static, linear front.

With this understanding, the Air Force has conducted extensive analysis of a variety of aircraft to replace the A-10. These studies were initiated in 1984 and continue to examine various aircraft options including upengined A-10s, modernized A-7s, AV-8Bs, and modified F-16s. These studies show properly configured "A-16s" are more survivable and effective than other designs across the CAS/BAI mission areas.

Within the context of an ongoing OSD directed study, the Close Air Support Aircraft Design Alternatives (CASADA) study, the Air Force is exploring a further range of options to replace the A-10. These include "austere" to "fully enhanced" designs, as well as F-16 derivatives. The CASADA results are expected this summer or early fall. We believe the "A-16" will prove itself to be an economical and effective option within the CASADA study.

DEPENDENTS OVERSEAS

QUESTION. General Shoffner, the Congress continues to be concerned about the number of dependents the services, but principally the Army, have in Europe. In a time of severe budget constraints, and considering the difficulties, if not the impossibility, of removing these dependents from Europe in the event of an emergency, would it not be prudent to reduce the number of dependents overseas and use the resources now used to maintain them to augment the capabilities of the active and reserve forces?

ANSWER. No, it would not be prudent to reduce the number of dependents overseas. We feel it is important to keep soldiers and their families together whenever possible. Families influence the soldier's decision to reenlist. Army research has found that long separations cause family attitudes toward the Army to shift from positive to neutral, and even to negative, for families of junior enlisted soldiers. Keeping families together overseas provides support for the soldiers and reduces family stress. In addition, any change to unaccompanied tours would result in increased turnover of personnel and, eventually, reduced readiness.

JOINT ARMY/AIR FORCE TRAINING

QUESTION: General Dugan, you indicate that the Army and Air Force have expanded efforts to train together. In what areas, and where?

ANSWER: The Air Force continues to train with the Army on an expanding basis. The Air Force not only provides close air support for the National Training Center (Air Warrior) on a routine basis, but has extended its support to include participation at the Joint Readiness Training Center at Ft Chaffee, AR. As the Army has fielded the AH-64 Apache advanced attack helicopter and the OH-58D advanced scout helicopter, the Air Force has worked alongside the Army to update Joint Air Attack Team training and capabilities.

Joint training will be further enhanced by the integration of the Air Force Red Flag Measurement and Debriefing System with the measurement and debriefing system at the Army's National Training Center. In addition, BRAVE SHIELD is a joint command and control exercise that combines separate Air Force and Army efforts into an integrated program. Finally, Air Force officers now participate in the Army's School for Advance Military Studies conducted by the Combined Arms Center at Ft Leavenworth, KS. This course of study provides graduate level instruction in the profession of arms and the operational art of war. These new and developing programs are indicative of Air Force commitment to joint training and employment.

JOINT AIR FORCE/NAVY TRAINING

QUESTION: In your "joint" Air Force-Navy training, is it primarily aircraft versus aircraft or aircraft versus ships? With what frequency is this training conducted?

ANSWER: Joint Air Force-Navy training encompasses both types of activities, but the majority of training is aircraft versus aircraft. Major regional training exercises such as Cope Thunder and Team Spirit in the Pacific and Display Determination in the European theater provide opportunities for large-scale joint training. Integration of air assets from both services to provide force protection for an attack force is the most commonly practiced activity. This involves use of land-based and carrier-based air defense aircraft to shield the attackers from air attack along with support assets such as EF-111s and EA-6Bs for enemy defense suppression and airborne warning and control aircraft for air and sea surveillance.

Additionally, dissimilar air combat training (DACT) takes place on a recurring basis between Air Force and Navy units that have an air-to-air mission. DACT pits aircraft versus aircraft in aerial scenarios typical of ones expected in wartime and has one side simulating expected adversary tactics while the other side utilizes their own employment options. These roles may be reversed for subsequent engagements. Dissimilar intercept training may also take place where one side defends an asset, such as a battle group afloat or a major airfield or other potential land target, from air-to-surface attack by the other side. In the case of defense of assets afloat, the ships also receive training by managing their assets for engagement of simulated attackers. This training may occur during the course of unit deployments for a specific training exercise or during day-to-day continuation training for units located within sufficient geographic proximity.

Pilot Retention

Question: You mention declining pilot retention, especially in the six-to-eleven-year group. The Air Force's solution to the problem seems to be to "throw more money" at it in the form of increased incentive pay. Are there no other solutions? What options in addition to increased incentive pay are being explored?

Answer: Besides monetary solutions the Air Force has implemented or will implement a wide variety of policy and program changes aimed at improving retention of pilots as well as improving quality of life for all Air Force members. The following is a list of actions recently completed:

- Provided to all squadron commanders to aid in retention counseling.
- Puts the squadron commander as the leader of the Air Force retention effort.

Squadron commander involvement
- Establishes squadron commanders as the focal point in the assignment process
- Insures thorough career counseling and realistic expectations

Communicating members' concerns to leadership
- Extensive survey data collected to help identify member's concerns about military profession to senior leadership
- Symposiums and conferences used to collect, evaluate and present ideas about retention

Regular Air Force augmentation
- Revised program/phase points to be more meaningful in officer's career

Decreased additional duties
- Reduced runway supervisory unit and range control officer duties
- Other additional duties limited by regulation

Recall/interservice transfer
- Active program to recall prior service pilots
- Screening other service's separating pilots

Increased active duty service commitment
- extended from six to seven years in Jun 1987, from seven to eight years in Jun 1988

Officer evaluation system changes
- a revised officer evaluation system will be implemented 1 Aug 1988. It will place emphasis on primary duty performance.

Officer Professional Development
- Recent recommendations made to highlight primary duty performance

Professional Military Education Eligibility Changes
- Realigned PME to appropriate rank structure

19XX career field
- Developed and implemented Operations Management career field to reduce need for pilots to fill some non-flying duties

Adjutant program
- Squadron positions created to reduce non-flying additional duties for aircrews.

Extended Undergraduate Pilot Training (UPT)
- Lengthened UPT from 49 to 52 weeks to reduce the ATC instructor pilot workday

Family Support Centers
- Created to diminish the hardships of Air Force duty on families

Spouse job preference
- Increases the employment opportunity for military spouses

Spouse Blue Ribbon Panel
- Developed a formal policy for working spouses

Continuation program
- Reinstated program for pilots and changed policy to allow majors (pilots) to serve to 24 years

Airlines hiring retirees
- Encourage airlines to hire retired military pilots and convinced industry those pilots are viable assets.

Sustained Aerial Achievement Medal
- Developed to reduce proliferation of Air Medal

Uniform enhancements

- SAC badge, TAC stars, leather jackets

Pilot media program
- Posters and fact folder designed to promote the prestige of a military aviation career

Contract cleaning of base quarters
- Eliminated a significant PCS irritant

Space A travel enhancements
- CONUS legs of overseas travel approved for family members

Voluntary overseas extensions
- Made it easier for overseas members to extend their tour

Increased geographic stability
- Slowed PCS moves

Promotion notification
- Shortened promotion notification time from board completion

In addition to these actions, the Air Force is now addressing concerns related to promotions, assignments, spouse and family issues, professional military education and working conditions.

29 March 88 SAC Hearing on Force Structure

Question: Mr. Taft, the reserve forces are, overall, more cost-effective than the active forces and, with increasingly modern equipment, are becoming more comparable in training and capability.

Are you comfortable with reliance on so-called "roundout" brigades?

Mr. Taft: Yes, we are very comfortable with reliance on the roundout brigades. The affiliation of units, the equipment compatability, and the training/mission preparation fully support the concept of the Total Force. Reliance on the Guard and Reserve to provide combat and combat support capabilities is militarily sound and economically necessary.

Question: Do you plan to increase reliance on roundout divisions?

Mr. Taft: In our efforts to improve the capabilities of the Total Force within the parameters of budgetary constraints, we continuously look at mission requirements and force structure. That effort addresses force mix and in that context, the ability of designated units to perform mission requirements. Our current emphasis is focused on improving the ability of the roundout divisions to meet their wartime commitments. Those improvements address equipment compatibility, training priorities and personnel qualifications. By improving the divisions' capabilities we can then look toward increasing reliance.

QUESTIONS SUBMITTED BY SENATOR BYRD

ARMY FORCE STRUCTURE REDUCTIONS

Question. Throughout much of the 1980's there has been considerable emphasis upon the importance of U.S. forces being prepared to respond to the demands of low- and mid-intensity conflicts. These types of conflicts were judged much more probable than a high-intensity conflict involving Soviet and/or Warsaw Pact forces. In response to this assumption the Army has created specially-designed divisions, such as the 9th Motorized Infantry Division and four light infantry divisions. A number of these divisions are assigned to Central Command, which is responsible for U.S. military operations in the Middle East/Persian Gulf. In addition, the office of the Assistant Secretary of Defense for Low-Intensity Conflict/Special Operations (ASD LIC/SO) and a new unified Special Operations Command were created. Submission of the FY 89 budget, however, finds the Assistant Secretary's Office still vacant and the light and motorized infantry divisions absorbing the bulk of the Army's OSD-directed manpower cuts. Does this situation indicate that concern about low- and mid-intensity conflict have assumed a lower priority than earlier in the decade? Will proposed manpower reductions affect Central Command more heavily than other Unified Commands?

Answer. The Army's concern about low- and mid-intensity conflict is as great as ever. For example, the Army has fully resourced the organization of a fifth Special Forces Group (3d SFG) beginning in FY 90 and the remainder of the 3d SF Group in FYDP 90-94. The Army supported SOF aviation and other hardware programs in the budget year and in the FYDP. Programs to sustain the development of our new light infantry divisions are moving ahead. To meet the constraint of the FY 89 ammendment, cuts were made to the 9th Inf Div and to planned growth in the 6th Inf Div (Light). The 6th was selected because the current level of structure is adequate (albeit at a higher risk) for the strategic requirements. The 9th was selected because of its lower priority strategic role, and the availability of an appropriate roundout brigade. **[Deleted.]** Overall, losing structure increases the risk associated with our strategy; however, the Army was forced to take structure in FY 89 and has implemented those cuts the best way possible.

ARMY FORCE STRUCTURE REDUCTIONS

Question. Does the Secretary foresee additional deactivations or transfer of missions to the Reserve Component to meet continued budget constraints?

Answer. Not at this time. The current mix of active and Reserve Component forces is at about the right level. Active force structure has been cut to the bare minimum. The active Army is small but can still meet its global obligations and continue to provide adequate conventional land-power deterrent forces. We continually look for missions that could be assigned or transferred to the Guard and Reserve. However, at the present time we do not contemplate any new mission transfers.

ALL VOLUNTEER ARMY

QUESTION. How can the all-volunteer Army be termed an "economical" alternative to conscription when its costs are dictating reductions in Army endstrength?

ANSWER. The all-volunteer Army is more economical than the same conscription force. This is substantiated by a Jul 86 study, The Differential Budget Costs of Conscription-Based Alternatives to All-Volunteer Force, conducted by Syllogistics, Inc. It concluded that the same conscripted force would cost more unless first term enlistee pay was reduced by 80%.

AIR FORCE TACTICAL FIGHTER WING DEACTIVATIONS

QUESTION: General Dugan, how did the Air Force pick the specific wings that will be deactivated? Where will reductions be made if the 401st Air Wing at Torrejon is relocated to Italy?

ANSWER: The 474 TFW at Nellis AFB was selected for inactivation in order to relieve crowding of range and training facilities as well as for other operational factors. The Government of Spain has demanded, and the US has agreed to, withdrawal of the 401 TFW from Torrejon AB not later than May 1991. Pending relocation by NATO in the Southern Region, the US plans to inactivate the wing and use the aircraft for force modernization. The Air Force is still studying alternative force structure adjustments necessary if the 401 TFW is in fact relocated in Europe.

14TH CARRIER AIRWING STANDING DOWN

QUESTION: As part of its FY-89 budget-reduction effort, the Navy decided that "its 14th carrier airwing will stand down until the completion of the aircraft carrier Service Life Extension Program (SLEP) and the start of the delivery of our new carriers." The 14th airwing was established last year in order to achieve a naval aviation structure of 14 active and 2 reserve carrier airwings, which the Navy said were needed for its planned force of 15 deployable aircraft carriers. Can the Navy properly outfit a force of 15 deployable carriers with 13 active and 2 reserve wings? If so, why was it necessary to have a 14th carrier airwing in the first place?

ANSWER: DON and DOD have consistently stated a requirement for 15 CVBGs. In a 20 November 1987 letter to Senator Kennedy, SECDEF wrote: "Defense strategy, as articulated by the Unified Commanders, the Chairman of the Joint Chiefs of Staff, and supported by the President, requires 15 Carrier Battle Groups as a peacetime minimum. This is a floor, not a ceiling. This requirement is predicated on a rigorous assessment of the threat to our national security objectives. In the absence of authoritative analysis, demonstrating this assessment is no longer valid, and in the face of potential reductions in strategic weapons, I cannot support initiatives that reduce and weaken our conventional naval forces."

To support current and anticipated commitments fully requires that we keep five carriers deployed. Under ideal circumstances with no room for deviation, it usually takes three carriers to keep one deployed; i.e., one deployed, one in post deployment maintenance and repair, and one in pre-deployment training. Since there is no evidence of a reduction in commitments, any reduction in total carriers available immediately translates to an increase in CV operational tempo. Historically, increased operational tempo has had an adverse impact on both the retention of sailors and airmen and the material condition of ships and aircraft.

The long-range plan to achieve 15 deployable CVs involves programmed new construction, service life extention/modernization measures, and orderly retirements. The disestablishment of an active airwing in FY-89 in no way implies that the 15 carrier requirement has changed. The temporary reduction in force structure, by one airwing, reflects current and projected, budgetary constraints and coincides with a period when a series of nuclear carrier refuelings, normal overhauls, and Service Life Extension Programs (SLEPs) reduce the total number of normally deployable carriers by one. Consequently, programmed deployments can be handled with one less active airwing during that period. Various management actions are being taken to meet carrier deployment requirements despite some projected aircraft shortfalls: (a) stand up of our Theodore Roosevelt airwings has been slowed to only three during the FYDP, (b) some programmed retirements will be deferred which will increase average age slightly, and (c) minor force structure modifications can be made including pipeline reductions when possible.

NAVY AIRCRAFT CARRIER FORCE STRUCTURE

QUESTION: It has recently been reported that one option being considered in response to reductions in the Navy's budget in future years will be to stand down the 13th active carrier air wing. Please comment on this report. If this air wing is deactivated, would the Navy then have to reduce its objective for deployable carriers to fewer than 15?

ANSWER: The Navy carrier requirement is established by wartime and peacetime commitments as determined by the Joint Chiefs' worldwide threat assessment and national security objectives. Currently, there are no plans to stand down an additional carrier air wing. If we were forced to reduce our active air wings to 12, the result would be an inability to simultaneously deploy 15 CV battle groups in time of national emergency. This mismatch of air wings to CVBGs would stretch our ability to cover known commitments resulting in an undesirable toll on our people and equipment. We do not desire to return to the low material readiness rate and poor retention experienced in the 1970's as a result of over extending our carrier deployments.

According to Secretary Carlucci, "a 15 deployable carrier battle group Navy is the floor, not the ceiling, for required force level. I have supported this requirement in the past, do so today, and (as long as the threat and commitments are not reduced) will do so in the future. It is my belief that the requirement to achieve a 15 deployable carrier battle group Navy at the earliest opportunity remains valid, and we should continue to pursue it aggressively."

Former Navy Secretary Webb's Proposal for Review of US Defense Posture

Question: In a speech at the National Press Club on Jan. 13, 1988, then-Secretary of the Navy James H. Webb Jr. urged a fundamental reassessment of our global defense commitments and posture in light of reduced U.S. defense resources and the many changes that have occurred in the world since World War II. Do you believe that in light of current funding constraints and the changing world economic and political order, we should now undertake a fundamental reassessment of our global defense commitments and posture? If you do not agree that such a reassessment is now in order, why not? When might such a reassessment become appropriate in the future?

Answer: In his remarks, former Secretary Webb stated that, in response to the evolving international environment and declining resources for defense, we must take a "fresh look at the world and our place in it" and seriously debate the US military posture in that new context. I believe that there is indeed a need to continually evaluate our interests in the world, the threats to those interests, and our military posture to counter those threats and protect those interests. And in fact, the Department of Defense is already fulfilling that requirement. Within the Department, each cycle of the Planning, Programming, and Budgeting System (PPBS) begins with an evaluation of US interests, threats to those interests, and US strategy in response to those threats. We then move very deliberately to form the budget to support the force structure that best executes that strategy within available resources and with minimum risk. I can assure you that a great deal of careful analysis goes into this process, and, of course, its results are also subjected to close scrutiny after we complete the budget and forward it to the Congress for your consideration and action. Therefore, as the international environment and domestic fiscal conditions evolve, the force posture which results from this decision making process changes accordingly. However, seldom are there such abrupt changes in our interests or commitments, or in our available resource levels, as to justify radical shifts in force posture.

The most immediate example of the result of this process is the Amended FY 89 Budget presently before you. We were forced to make serious and contentious decisions to arrive at this budget, which both meets the agreement between the President and the Congress on fiscal guidance, and meets national security requirements with the minimum possible amount of risk. The force structure reductions we made in building that budget were not made lightly. We made tough choices and set priorities. We identified some marginal programs and eliminated them. We chose, as Secretary Carlucci stated in his testimony to the Senate Armed Services Committee in February, "a smaller force that was fully ready to perform its mission as opposed to a large force that was not ready." We realize that the amount of risk inherent in this smaller force is greater than we would like, but judge it to be acceptable and significantly less than that resulting from a force which could not perform its assigned missions. In our preparations for the FY 90-91 budget which we will present to you early next year, we are again undertaking a serious and comprehensive examination of our program to ensure it is the best possible to respond to new conditions in our international and domestic environments.

With regard to the specific question of our global commitments, to date we have found no safe way to curtail these US commitments while retaining those characteristics which make America a great nation. NATO is the most successful alliance in recent history, having maintained the peace in Europe for forty-three years. Our other alliances around the world have also preserved peace and helped protect American interests. The commitments we have made have served us well and we should not rush to change them.

QUESTION: In his speech, Webb called for U.S. allies in Europe to assume responsibility for their own defense, and for the United States to devote greater time and resources to the Asia/Pacific region. Do you think the United States should devote less of its defense planning and resources to Europe, and more to the Asia/Pacific region? If not, why not?

ANSWER: Optimally, we would like to be able to devote more resources to both regions, but this is not possible under current budget restrictions. Our current defense planning and force structure is based on a combination of our assessment of the threat and the resources available to meet it. We therefore, have carefully considered all of our requirements and commitments in order to make the best use of our forces to protect U.S. security interests worldwide. We have a long-standing commitment to the defense of both Europe and the Asia/Pacific region. Our current level of effort, forces, and defense planning is designed to meet our national security interests in both regions.

FORCE STRUCTURE

Question: Webb also suggested that the United States reduce its static land-defense commitments in Europe and other locations around the world in favor of a military force structure and posture placing greater emphasis on forces with global mobility and flexibility. He suggested that naval forces were best suited for such a global defense posture. Do you think the division of responsibilities in the European theater should be altered to have the Europeans focus more on land forces while the United States focuses more on naval forces? If not, why not?

Answer: In peacetime, the Europeans already provide 90 percent of the ground forces and 80 percent of the combat aircraft in Europe. In wartime, after mobilization, the Europeans provide 60 percent of the ground forces and over half of the air forces. It would be extremely difficult for the European allies, particularly those countries on NATO's Central Front, to increase the size of their armed forces because of declining numbers of draft age people.

Massive Soviet conventional superiority requires that the United States augment the ground and air forces of our NATO allies in peacetime, and that we maintain the ability to rapidly reinforce these forces if the need should arise. Without this peacetime presence and wartime reinforcement capability, NATO's deterrent strategy of flexible response would be called into question.

Former Navy Secretary Webb's proposal for review of US defense posture

Question: Webb stated, "It would seem illogical to reduce the size of our sea services at the very moment in history when they should be assuming an even greater role in our international security posture." He suggested that the Air Force and Army should bear most of the force-structure cutbacks now being implemented. Have you considered whether the United States should reorder its military force structure to place greater emphasis on mobile and particularly naval forces, and less emphasis on ground forces? If not, why not? What balance of land, naval, and air forces do you favor?

Answer: It is imperative to our strategic objectives that we maintain naval superiority. To achieve our strategic objectives, we need maritime capabilities which are at once global, forward deployed--and with our allies--superior to probable opponents. The United States has traditionally maintained a strong Navy to preserve the freedom of the seas and to support the global commitments associated with our forward defense strategy. This Administration embarked on an important shipbuilding program to insure the United States and its allies would maintain maritime superiority in key ocean areas. The FY 88-89 Budget carried forward our effort to build a modern 600-ship Navy to which we remain committed. Concerning a reordering of the military force structure to speed attainment of this force goal, it is our belief that in light of the current fiscal realities, the force structure we have programmed is best suited to achieve our National Objectives.

Question: In what other respects do you agree or disagree with former Secretary Webb's remarks before the National Press Club?

Answer: The four previous questions have dealt with the major points that former Secretary Webb made in his speech. To answer this question would require reviewing the speech line by line. We are presently debating within the Department our program for FY 90-94. Responding to former Secretary Webb's statement line-by-line would prejudge several of the major issues in that internal debate. I would ask that you allow the Department's normal procedures to go forward to provide the best programs for the future without being prejudged in this forum.

ATTAINMENT OF 600 SHIP NAVY

The attainment of a 600-ship Navy is a long-standing Reagan Administration defense objective. For the past several years, the Administration has projected that the Navy would attain a fleet of 600 deployable battle-force ships by FY-89 or FY-90. To meet FY-89 fiscal constraints, however, the Administration is proposing the early retirement of 16 older Navy frigates. This action, along with other ship retirements, will leave the Navy with only 580 battle-force ships at the end of FY-89, thus delaying the attainment of a 600-ship fleet.

QUESTION: For how long has attainment of a 600-ship fleet been deferred?

ANSWER: Eight or nine years.

QUESTION: In what year is the Navy now projected to attain a force of 600 deployable battle-force ships?

ANSWER: Under the current plan, the Navy will attain a force of 600 deployable battle-force ships in (d). There will be a shortage in AAW combatants until after the turn of the century.

QUESTION: How important to U.S. and allied defense strategy is a 600-ship Navy? Is the eventual attainment of a 600-ship fleet still an official (if not immediately obtainable) Administration defense objective? If not, what is the Administration's new official overall numerical objective for deployable battle-force ships, and when will it be obtained?

ANSWER: Secretary Carlucci has stated: "Navy force structure planning is based on providing the requisite warfighting capability to execute the Commander in Chiefs' (CINCs) war plans with acceptable risk. The national requirement for carrier battle groups to support these plans with minimum risk is a classified number, well in excess of 15. Numerous Joint Staff and Service studies and analyses, as well as wargaming results, have shown that 15 is the minimum number that prudent risk will allow. A 15 deployable carrier battle group Navy is the floor, not a ceiling, for required force level. I have supported this requirement in the past, do so today, and (as long as the threat and commitments are not reduced) will do so in the future. It is my belief that the requirement to achieve a 15 deployable carrier battle group Navy at the earliest opportunity remains valid and we should continue to pursue it aggressively."

Our goals for the 600-ship Navy have not changed. We have reached our minimum objective levels for strategic forces and attack submarines. The 4th battleship, USS WISCONSIN (BB-64), will join the fleet by end FY 89. The 15th aircraft carrier, USS ABRAHAM LINCOLN (CVN-72), becomes operational in 1990. We expect to achieve our amphibious lift objective when LHD 5 delivers in FY 96 or FY 97. Our most serious deficiency is in modern battlegroup capable AAW combatants. We will not achieve our objective level for these ships until just after the turn of the century.

QUESTION: Is it still an official Administration objective to attain a Navy that includes 15 deployable aircraft carriers, 4 battleship-led battlegroups, 100 nuclear powered attack submarines, sufficient escort and amphibious lift for the assault echelons of a Marine Expeditionary Force and a Marine Expeditionary Brigade, 10 underway replenishment groups and 7 convoys? If so, when will these force level objectives be attained? If not, what are the official Administration force-level objectives for these ships and formations at present? When do you expect these objectives to be attained.

ANSWER: Our goals for the 600-ship Navy have not changed. We have reached our minimum objective levels for strategic forces and attack submarines. The 4th battleship, USS WISCONSIN (BB 64), will join the fleet by end FY 89. The 15th aircraft carrier, USS ABRAHAM LINCOLN (CVN 72), becomes operational in 1990. We expect to achieve our amphibious lift objective when LHD 5 delivers in FY 96 or FY 97. Our most serious deficiency is in modern Battlegroup capable AAW combatants. We will not achieve our objective level for these ships until just after the turn of the century.

QUESTION: In the past, the Navy has provided projections of the overall number of deployable battle force ships at the end of the fiscal year for a period of several years into the future. Please provide a revised projection showing the overall number of deployable battle-force ships at the end of the fiscal year for the next several years.

ANSWER: The following ship count profile is based on the FY 89 Amended Budget Submission. It takes into consideration the retirement of the 16 frigates in FY 88 and FY 89.

PROJECTED SHIP BATTLE FORCES

FY-88	FY-89	[Deleted]	[Deleted]
570	580		

QUESTIONS SUBMITTED BY SENATOR D'AMATO

NAVY RESOURCES IN DRUG INTERDICTION

Question . How does the Navy expect to maintain or increase its commitment to this mission while eliminating some of the vital assets?

Answer . The Navy will continue to work closely with the Coast Guard through the quarterly fleet scheduling conference to ensure that individual ship schedules are optimized to support drug interdiction operations. Careful scheduling can compensate in some measure for the loss in flexibility caused by reduced strength and budget shortfalls. Innovative operational measures, such as the use of hydrofoil patrol craft (PHMs) forward deployed to bases in the Caribbean with Coast Guard TACLETs embarked, and more effective use of ships of opportunity also contribute to increased mission suport. The Navy's ship sighting and reporting program through which all maritime and air units operating in drug-threat areas report locations of suspect vessels provides vital intelligence for more effective use of drug interdiction resources. U.S. Navy biliteral and unilateral operations with Caribbean navies promote international cooperation between western hemispere governments.

Question . How does the Department plan to replace the drug interdiction capacity of the 8 frigates that will be retired? What level of resources are the Navy and DOD planning to commit to the war on drugs for Fiscal Year 1989?

Answer . During fiscal year 1987 Navy aircraft flew over 9700 flying hours and Navy ships provided over 2500 steaming days in support of the war on drugs. These operations were scheduled in conjunction with training requirements as permitted by military commitments. The Navy intends to continue to support this vital effort to the maximum extent, consistent with the National mandate to maintain military preparedness. Specific commitments are made through a quarterly scheduling process that is dependent on many variables and cannot be predicted in advance. The scheduling process has been established between Coast Guard Area Commanders and Navy Fleet Commanders in Chief to embark Coast Guard law enforcement teams (TACLETs) in Navy ships which operate in drug threat areas. The Navy ships serve as platforms for the Coast Guard TACLETS which are responsible for the actual boarding, search, seizure, and arrest functions. Decommissioning of FFG-1 and FF-1040 class ships reduces frigate availability by nearly ten percent and impacts adversely on scheduling flexibility. Quarterly employment scheduling conferences will continue to mesh individual ship unit schedules with law enforcement operations to minimize the impact.

LIGHT INFANTRY DIVISION REDUCTIONS

Question. The Army plans to reduce the number of brigades in one light infantry division to help meet the endstrength goals. Do you expect any similar reductions in the future in other light infantry divisions.

Answer. No. The Army does not plan to further reduce its force structure.

Question. If projected increases in Defense spending are not provided by Congress in the outyears, would you expect additional force reductions in the light divisions?

Answer. Not at this time. We would have to look at the size of a decrement and weigh the risk against alternatives we might have.

FY 89 U.S. ARMY POSTURE STATEMENT

QUESTION. The FY 89 U.S. Army Posture Statement (p. 19) says that education is essential for developing the skills our soldiers need to lead the future force, yet education is being reduced 24% for FY 89. Can you please explain this contradiction?

ANSWER. The Congressional reductions to Other General Personnel Activities in FY 88 were a devastating 11%. They included specific reductions to Recruiting and Advertising ($7.2M) and Education ($8.6M) as well as general reductions ($22.9M) and a program growth reduction ($35.0M). The growth experienced in this program pertained to Veterans Educational Assistance Program (VEAP)--a must pay bill. In order to satisfy the must pay requirement of VEAP, the Congressional reduction had to be absorbed by the rest of Other General Personnel Activities. The majority of the reduction was absorbed by Civilian Training Education and Development and Army Continuing Education System. These reductions were extended into FY 89. These two programs still continue to provide essential developmental training for civilians and military; however, at a minimally satisfactory level.

SUBCOMMITTEE RECESS

Senator RUDMAN. On behalf of Chairman Johnston and the committee, we thank you very much for appearing here. We found your testimony very helpful, and I will now put the committee into a recess at the call of the Chair.

[Whereupon, at 12:12 p.m., the subcommittee recessed subject to the call of the Chair.]

DEPARTMENT OF DEFENSE APPROPRIATIONS FOR FISCAL YEAR 1989

WEDNESDAY, MARCH 30, 1988

U.S. Senate,
Subcommittee of the Committee on Appropriations,
Washington, DC.

The subcommittee met at 10 a.m., in room SD-192, Dirksen Senate Office Building, Hon. James R. Sasser presiding.

Present: Senators Sasser, DeConcini, Stevens, and D'Amato.

DEPARTMENT OF DEFENSE

Department of the Air Force

STATEMENTS OF:

HON. EDWARD C. ALDRIDGE, JR., SECRETARY OF THE AIR FORCE

GENERAL LARRY D. WELCH, CHIEF OF STAFF, UNITED STATES AIR FORCE

OVERVIEW OF AIR FORCE BUDGET REQUEST

OPENING STATEMENT OF SENATOR SASSER

Senator Sasser. The subcommittee will come to order.

Secretary Aldridge and General Welch, I want to welcome you to the Defense Appropriations Subcommittee's sixth hearing to examine the fiscal year 1989 budget request.

I am pleased to announce that our distinguished Chairman of our subcommittee and distinguished Chairman of the committee as a whole, Senator Stennis, returned to the Senate yesterday looking hale and hearty. So we look forward to welcoming him back to the subcommittee here in short order.

Just let me say that this hearing comes at a difficult time for Congress, for the Pentagon and for the taxpayers of this Nation. We are struggling to meet this year's spending limits in the Budget Summit Agreement and to chart a wise course for meeting those constraints in the leaner budget years that are ahead of us.

And you, Mr. Secretary and General Welch, have the particularly difficult responsibility of making hard choices to reduce our defense spending while at the same time maintaining the Air Force's essential military capabilities.

The subcommittee is interested in learning how you made these choices just this year, and how you have prepared the Air Force for the future.

BUDGET REQUIREMENT

Now, with respect to this fiscal year, the Air Force claims it must furlough important components of its civilian work force to meet spending limits. Yet Congress did not require these furloughs, and neither the Army nor the Navy has found it necessary to take such actions. A review of the fiscal year 1989 budget request shows many changes in Air Force programs; but, it is unclear whether these changes truly represent the difficult choices needed to confront fiscal reality.

For example, despite severe spending limits, the Air Force's total budget increases by 6 percent in real terms in fiscal year 1989, the largest increase of all the Services, and while the Air Force has recommended the deferral or cancellation of eight research and procurement programs, at least five of these programs have lacked sufficient congressional support or technical merit to ensure their continuation even with larger budgets.

And finally, the Air Force is proposing several force structure changes in 1989, but it has failed to reduce its budget request by a commensurate amount.

The Air Force budget request contains policy and program decisions in several national security areas, including land-based missiles, space boosters, strategic bombers and fighter aircraft. In the strategic area, the subcommittee will want to hear why the Air Force demanded outright termination of the Small ICBM program in favor of the so-called Peacekeeper Rail Garrison deployment. We will want to know why the enhancements to the B–1B bomber which were so imperatively sought last year have now been deferred; and whether allegations about pricing irregularities in the Stealth bomber program are being pursued aggressively.

PREPARED STATEMENT OF SENATOR D'AMATO

But let me say the subcommittee looks forward to hearing your candid thoughts on these and other issues.

We are pleased this morning to be joined by our distinguished colleague from New York, Senator D'Amato, and I will defer to him before turning it over to you, Mr. Secretary, and you, General Welch.

Senator D'Amato.

Senator D'AMATO. Mr. Chairman, thank you for your consideration, and at this point I would ask if I might be permitted to submit my statement for the record as if read in its entirety.

Senator SASSER. It will be included in the record as if read.

[The statement follows:]

PREPARED STATEMENT OF HON. ALFONSE D'AMATO

U.S. SENATOR FROM NEW YORK

Mr. Chairman, I welcome to this hearing the Secretary of the Air Force, Edward Aldridge and Air Force Chief of Staff, General Larry Welch.

The revised budget for fiscal year 1989 has greatly affected the ability of each service to do its job properly. We do a great disservice to our national security by being stingy with defense spending. For fiscal year 1989, the Air Force had originally requested $107.2 billion. This figure has been reduced to $97.2 billion. $3.2 billion of this reduction is in program terminations alone.

The United States is the greatest air power in the world. If the Department of Defense, however, is forced to accept drastic reductions in spending year in and year out, our force projection and air defense capabilities will be severely diminished. We cannot return to defense posture of the late-1970s.

Mr. Chairman, we are already witnessing this decline. The Air Force is forced to reduce its goal of 40 tactical fighter wings to 37 wings. Strategic programs are being postponed or eliminated and the military and civilian work force is being reduced.

I believe that the Air Force has done a good job in providing the U.S. Congress with a budget that, under the demands imposed on it, attempts to meet its mission. It is my hope that Congress will resist cutting this lean budget further, and will actually increase spending where it is vital for our national security.

Mr. Chairman, I look forward to the testimony of our witnesses and I look forward to working with them during this budget process.

Thank you, Mr. Chairman.

REQUEST TO SUBMIT QUESTIONS

Senator D'AMATO. And Mr. Chairman, inasmuch as I have two other subcommittee hearings going on simultaneously—as you know, you cannot be at all of them at one time—I would like to leave questions for the record, particularly one question dealing with the question of the over-the-horizon backscatter radar which I would like to have answered for the record, and I will leave them for the Secretary.

PILOT RETENTION

Senator D'AMATO. Mr. Chairman, let me just make an observation.

We are the greatest air power in the world, and I think it is absolutely imperative that we continue that role and that tradition, and none of this is going to be easy. The retention of qualified pilots, I read in the Secretary's statement, has become, for the first time in a while a very serious problem.

I cannot forget my initial introduction to the Senate, the testimony as it related to the MX, the vulnerability factor that the former Secretary of Defense testified to, and then in a short period of time, reversal of that testimony. And now we call it the Peacekeeper. And I supported those programs. I have to just suggest that it is a terribly expensive way to bring about a pyrrhic victory psychologically. Now we are engaged in this business of whether to fund the Peacekeeper and the Midgetman. I would have to suggest to you that I think both of them have seen their better days.

There is a more appropriate use of our defense dollars instead of investing tens and tens of billions of dollars in systems that are not going to gain the kind of public support necessary in this democracy to make them operative. That is just one short observation.

We are kidding ourselves and we are wasting time and precious resources that could be used so desperately in other areas to secure our national defense.

So, Mr. Chairman, thank you for your indulgence, and it is good to see the Secretary and General Welch.

Senator SASSER. Thank you, Senator D'Amato.

Mr. Secretary, we will turn to you first, and then to General Welch.

You may proceed, sir.

SUMMARY STATEMENT OF SECRETARY ALDRIDGE

Secretary ALDRIDGE. Thank you, Mr. Chairman. You have received my formal statement for the record. However, I would like to take a couple of minutes to emphasize a few points before answering your questions.

Early in this administration we set out to redress the readiness, sustainability and force structure shortfalls of our military forces that arose during the late 1970s. We have made significant progress in that effort. Key to this has been our ability to recruit and retain the highest quality people in the history of the Air Force. The Peacekeeper missile and the B–1B bomber will signficantly enhance our strategic deterrent forces. We have modernized our tactical forces with F–15 and F–16 aircraft. Our improved readiness is evidenced by the highest mission capable rates in Air Force history. We have enhanced our force projection capability with the C–5B and KC–10 aircraft.

Taken together, these improvements have provided the most capable Air Force ever, but the job is far from complete. Negative real growth resulting from congressional funding decisions over the past 4 years forced us to scale back, thus impeding the momentum toward our objectives. The budget for fiscal year 1989 is such that future capability will be reduced, and past gains in some cases will be reversed.

FORCE STRUCTURE REDUCTIONS

Because of these budget constraints, we were forced to make some very difficult decisions. We vowed not to return to the hollow force of the late 1970s. Accordingly, we have chosen to reduce force structure and live with a smaller yet effective force. In restructuring our development programs, we emphasized high leverage technologies and systems which will promote American strengths and exploit our enemies' weaknesses. Specific examples include the B-2 and the Advanced Tactical Fighter.

SUPPORT OF AIR FORCE PEOPLE

But one of the things we cannot do is back away from the need to support Air Force people. People remain the key to success, even more so in these austere times. As a technical service, the Air Force depends on recruiting and retaining the best young men and women our nation has to offer. Quality people ensure a quality force. The results are evident everywhere. The significant improvement in our aircraft accident rate for the last 3 years is one example. And so is a recent test at

Langley Air Force Base on the use of war readiness spare kits. The experts and their computer models predicted that sortie rates would decline after 4 or 5 days, but the motivation of our people and the ability to find innovative solutions generated more sorties than anyone predicted. Such performance typifies today's Air Force professional.

PAY INCREASES

However, it is false economy to lose such people because of continued pay erosion and then to have to train replacements. Recognizing this fact, the President has requested a 4.3 percent military pay raise to help offset the 11 percent deterioration in pay comparability since 1981. Likewise, we have also requested a 2 percent pay raise for our civilian employees.

These pay raises are my top priority request. Likewise, we urge your support for other quality of life programs such as morale, welfare and recreation facilities. I do not believe this is an area that merits congressional micromanagement. Our commanders are in the best position to determine what facilities are needed to support the readiness and morale of their people. What we need is your support for our requested improvement programs.

VARIABLE HOUSING ALLOWANCE

While Congress provided our military personnel a 2 percent pay raise effective last January, many of our people believe they were shortchanged. This is because Congress capped the variable housing allowance, despite inflationary increases in the housing market. Instead of an increase, some actually received less money in their January paychecks. Our enlisted force and junior officers were especially hard hit by this turn of events. Even the 36 percent who received a VHA increase were not winners. Congress restructured the VHA in fiscal year 1985 so that our people would have out-of-pocket housing expenses averaging only 15 percent of the total for any given area. The VHA cap has forced our people to absorb costs averaging 22.4 percent. This is the wrong signal to send.

We need an adequate VHA to keep up with the increased housing costs and seek your support for a 3.4 percent increase in VHA.

DOWNTURN IN PILOT RETENTION

Of interest and concern to me is the downturn in pilot retention. The cumulative continuation rate for the critical 6- to 11-year group was 48 percent for fiscal year 1987, down from a high of 78 percent in 1983. Pilot losses last fiscal year exceeded our pilot training production by over 600. We anticipate continued problems as the commercial airline industry expands. To counter this alarming decline, we have included a request for $54 million in our amended budget to provide a monetary incentive for pilots to remain past their initial obligation.

If this program induces just nine experienced fighter pilots to stay in the Air Force, it will cost less than training equally qualified replacements, not to mention the 5 years it takes to do so.

Clearly, we seek your support for this initiative.

I firmly believe that each of the programs I have highlighted are absolutely essential if we hope to maintain a quality force. In the 1970's, many of our best people voted with their feet. They left the Air Force and other services because of a perceived lack of public support and an uncertain future. We must not let that happen again.

STABLE PROGRAMMING AND BUDGETING

Within the fiscal constraints, our amended budget balances quality people with quality forces. However, without the stable programming and budgeting that only Congress can provide, we cannot deliver those forces in sufficient quantity and at acceptable cost to meet the broad spectrum of threats.

Numerous studies and reports such as those by the Packard Commission and the Commission on Integrated Long Term Strategy, indicate that stability in defense spending levels would significantly improve management and reduce costs. The unstable funding environment of the last several years disrupts long term planning for defense programs and results in less defense for more dollars.

The Congressional Budget Office highlighted the major reason for weapons procurement stretchout as the necessity to meet fiscal limitations imposed by the annual budget cycle. The CBO states in their November 1987 report that the amount of funding in a given year takes precedence over economic considerations, even though buying larger quantities would reduce costs.

Furthermore, the timeliness of the authorization and appropriation bills which directly affect all military operations is crucial for better planning. Congress must take aggressive action to provide a stable and timely defense budget.

The Air Force has made the tough budget decisions necessary to protect our people yet maintain the delicate balance between readiness, sustainability, modernization, and force structure. We did not make these cuts because we think they are a good idea. For instance, our Nation needs an antisatellite capability, but successive congressional testing limitations would not enable us to field a viable system.

Clearly, the risk to our Nation is increased. Meanwhile, the Soviet Union continues to improve both the quality and quantity of their forces.

In sum, Mr. Chairman, we made the tough decisions required because of fiscal constraints. However, let me assure you that the American people need and deserve a better Air Force than this budget will provide.

Thank you, Mr. Chairman.

I will now turn it over to General Welch.

[The statement follows:]

JOINT PREPARED STATEMENT

THE HONORABLE EDWARD C. ALDRIDGE, JR.
Secretary of the Air Force

GENERAL LARRY D. WELCH
Chief of Staff
United States Air Force

MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE:

The mission of the United States Air Force is to organize, train and equip aerospace forces to deter aggression and, if necessary, defeat aggressors across the spectrum of conflict. This supports the most fundamental national interest of the United States, the preservation of our free and independent nation with its institutions and values intact. In the first half of the 1980s, the support of the Administration, the Congress and the American people enabled the Air Force to redress shortfalls in readiness, sustainability and force structure that developed during the difficult times of the 1970s. As a result, today's Air Force is better manned, equipped and prepared than at any other time in history.

But, the job is far from complete. Budget reductions over the past three years forced us to scale back many programs, slowing our momentum in reaching the objectives established at the beginning of the decade. The cumulative effect of these reductions and the markedly reduced budget levels for FY 89 will severely constrain future capability, and some past gains may be negated. The result is a higher degree of risk in deterring Soviet aggression around the globe.

To provide the best possible force within the constraints of the Amended FY 88/89 Budget, the Air Force reexamined the overall priorities that have guided our progress for the past seven years. We concluded that, even with the significantly reduced budget, our priorities remain valid. The first is to recruit, train, motivate and retain quality people. Within the overall task of building and maintaining quality forces, our priorities remain to: modernize strategic forces, maintain a high level of readiness and sustainability, increase airlift capability, modernize tactical forces and improve our ability to operate effectively in space.

Facing severe funding and manpower reductions, we developed a balanced framework of principles to guide our reduction decisions. We will sustain programs that support our people, on and off duty. Additionally, we will not return to the hollow force of the late-1970s. Hence, the budget levels forced a conscious decision to reduce force structure to maintain a smaller but healthy, well-supported force. Finally, we will continue emphasis on programs that exploit our strengths and our adversaries' weaknesses.

Guided by these principles, our Amended FY 88/89 Budget supports, within the resources provided, those programs we believe necessary to maintain quality people and forces. In sizing our smaller force, we had to choose between systems originally designed to be complementary. We considered the developmental status of various programs, and those systems experiencing unusual difficulty during their research and development phase were scrutinized for restructuring or cancellation. Emphasizing our competitive strategy, we are providing strong continuing support for the space recovery program and specific development programs such as the Advanced Technology Bomber, Advanced Tactical Fighter, Joint STARS and C-17 that will provide revolutionary advances over current systems.

Clearly, recent budget reductions have decreased our ability to meet long-term defense goals resulting in increased risk. Nevertheless, given the current fiscal climate, we believe the Amended FY 88/89 Budget, as outlined in the following program discussions, gives us the best combination of capabilities to provide deterrence across all mission areas.

OUR PEOPLE

The Air Force relies on a Total Force mix of Active and Air Reserve Component forces, civilian employees and those retirees subject to recall to active duty.

The future capability of the Air Force will depend, in large measure, on how well we recruit and retain quality people today. Our standards for new recruits are high and will not be compromised. In 1987, 99 percent of the Air Force enlistees were high school graduates. Retention rates in most job-specialty areas remain healthy. There are, however, downward trends in retaining pilots, engineers and some enlisted specialists. These trends are cause for serious concern. The alarming drop in our pilot retention rate portends a shortage beginning in FY 89. The Air Force is focusing intensely on measures to improve retention that include an increase in compensation for pilots.

In the 1990s, the Air Force will face an increasingly competitive labor market. An aging national work force and a shrinking youth cohort will sharpen the already keen competition for individuals who can support the growing number of high-technology organizations. Efficient management of the Air Force civilian and military work force will be especially critical in these times of reduced defense budgets.

All Air Force people rightfully expect a competitive compensation package, including pay and allowances; medical care; advancement; adequate Morale, Welfare and Recreation Programs; adequate reimbursement for moving expenses and other benefits. Failure to meet these expectations could lead to a repetition of the difficult times during the late-1970s, when economic factors, pay caps and private sector job opportunities resulted in the loss of large numbers of talented, experienced Air Force people. It is critically important that the Congress support the

4.3-percent pay raise for our military members and 2-percent pay raise for our civilian workers that are included in our Amended FY 88/89 Budget.

In the Amended FY 88/89 Budget, we are drawing down our civilian workforce by 1361 as a result of force structure changes. We will also cut 23,100 military positions, more than half of which will be nonprogrammatic strength reductions. These nonprogrammatic reductions interfere with programmed development designed to cope with growing mission responsibilities. These reductions also threaten our readiness and sustainability by reducing the quality and accessibility of important support services. However, budget pressures dictate a smaller force.

STRATEGIC FORCES

Air Force strategic forces provide deterrence over a broad spectrum of nuclear and conventional conflict. Adversaries must clearly perceive that our forces are able to deny their military and political war aims at any level of conflict. To achieve this objective, we are pursuing modernization programs to ensure that our most threatening adversary, the Soviet Union, cannot be confident of success in an attack against the United States or our allies. Should deterrence fail, limiting damage to the United States and our allies demands the capability for swift and effective retaliation against the adversaries' most valued assets.

Strategic modernization is also fundamental to success in arms reductions. The strategic modernization programs clearly signal our national resolve, encourage serious Soviet participation in arms control negotiations and allow us to negotiate from a position of strength.

The Air Force Amended FY 88/89 Budget reflects a commitment to meeting strategic challenges, though at reduced funding levels. Deterrence will continue to be underwritten by strong, effective and modern forces. However, the deterrent equation would be stronger if we had continued modernization at the level originally requested in the FY 88 President's Budget. The budget pressures have transformed programs designed to be complementary into competitors. Some programs must be restructured, and some will be cancelled. Clearly, remaining forces must be properly funded to achieve maximum capability and readiness. A continuing downward funding trend in strategic programs could dangerously impact the deterrent posture.

ICBMs are the most responsive element of the strategic Triad, combining accuracy and high daily alert rates to hold time-urgent, hardened, Soviet warfighting assets at risk. The foundation of our ICBM modernization program is the Peacekeeper missile. Deployment of 100 Peacekeeper missiles is essential to reduce the existing Soviet advantage in ICBM capability and to encourage the Soviets to engage seriously in negotiating strategic arms reductions. As we deploy 50 Peacekeepers in Minuteman silos, we also continue development of a rail-garrison basing mode. Deploying the Peacekeeper day-to-day in secure areas and dispersing it during times of increased tension will diversify our strategic forces, enhance deterrence and promote stability.

Budget pressures force us to continue the Small ICBM at only a minimal funding level until a national decision is reached regarding its future.

Bomber modernization, through deployment of the B-1B and the Advanced Technology Bomber (B-2), will counter existing and projected Soviet defensive improvements. Each aircraft has an essential time-phased mission. The B-1B combines high-speed, low-altitude tactics with low-radar cross section and electronic countermeasures to effectively penetrate enemy defenses and, in the future, will complement the B-2 as a stand-off platform. Low-observable technology will make the B-2 extremely difficult to detect, improving its capability against targets deep within an enemy's territory. B-2 research and development is progressing toward delivery in the early-1990s.

Strategic defensive forces enhance deterrence by providing integrated tactical warning and attack assessment capabilities to detect, identify and characterize attacks against North America. We are continuing modernization of our ballistic missile and atmospheric warning systems, though at reduced rates. The air defense interceptor force will become more capable with deployment of the F-16 Air Defense aircraft and its improved all-weather weapons employment capability.

Funding for the modernization of our strategic C^3 network has been reduced, slowing the rate of planned improvements. Deployment of the Ground Wave Emergency Network has been curtailed. The replacement Strategic Air Command airborne command post has been cancelled, and improvements to current airborne command posts have been deferred. As a result, we must continue to operate with known deficiencies in our C^3 systems and accept greater risk.

TACTICAL/THEATER FORCES

Capable, ready and sustainable theater forces are an important element of US deterrent strategy. The Soviet Union continues to expand its conventional forces, outproducing the US in almost every category of weaponry. Forward basing of US forces and a rapid reinforcement capability are the foundation of our commitment to security of our allies. Our commitment to Europe will become even more visible as intermediate-range nuclear weapons leave that theater. To this end, four programs in our Amended FY 88/89 Budget are critical to conventional deterrence: the Advanced Tactical Fighter (ATF) Program, the Advanced Medium-Range Air-to-Air Missile (AMRAAM) Program, fighter modernization and the posturing of fighter force structure.

The ATF will ensure qualitative air superiority against enemy aircraft projected for the late-1990s. Supersonic cruise and maneuver, low-observable technology, state-of-the-art weapons and advanced modular avionics will yield a lethal, survivable fighter to provide the air cover essential for support of the AirLand Battle. ATF development continues as two contractor teams fabricate demonstration/validation prototypes for flight evaluations beginning in 1990.

AMRAAM is a force multiplier that will allow the engagement of multiple targets during a single intercept in an electronic countermeasures environment. It will provide launch and maneuver capability, giving our fighters the leverage to fight and win air battles although outnumbered. AMRAAM will double the effectiveness of the F-15 and increase the air-to-air effectiveness of the F-16 by six times. Flight test and development will conclude in 1988, and the missile will enter high-rate production in FY 89.

Fighter modernization efforts include acquisition of 36 F-15Es and 180 F-16C/Ds as well as modifications to existing aircraft. Radar upgrades, integration of new weapons and avionics updates are required to maintain the credibility of our current inventory.

For several years, the Air Force has worked toward an interim fighter force structure goal of 40 tactical fighter wing equivalents. The severe budget environment thwarts progress toward this goal. It also prevents us from maintaining the present 38 wings. To avoid a return to the hollow force of the late-1970s, we are downscoping our fighter posture to 37 wing equivalents in FY 89. Concurrently, these actions allow modernization of the Total Force while ensuring each unit is fully capable and trained to execute its combat mission.

FORCE PROJECTION

The deterrent strategy demands a force projection capability to respond to global challenges. The proper balance among airlift, sealift and prepositioning enables us to deploy, employ and sustain forces in a timely manner. Although sealift provides the greater part of US sustainment capability, there is no substitute for the speed and flexibility of airlift forces. Soviet perception of our force projection capability may make the difference in successfully deterring their expansionism and aggression.

By the end of this decade, our programs to modify aircraft, increase spares, and procure new cargo and tanker aircraft will nearly double the strategic airlift capability of 1980. Despite these improvements, airlift capability still remains significantly below the nation's need.

The FY 89 program continues procurement of the cost-effective C-17 cargo aircraft. The C-17 will modernize the strategic airlift force and increase theater airlift capability. For the first time, we will field a strategic airlift aircraft with the ability to deliver a full range of Army equipment directly where needed, even into small, austere airfields.

Because strategic and conventional force requirements increasingly outstrip current capability, we must also continue to increase air refueling capability. The ongoing program to modernize the KC-135 tanker will result in a 50-percent increase in fuel offload capability at a fraction of the cost of a new aircraft.

We will continue modernizing and expanding the capabilities of our special operations forces (SOF). Working closely with OSD, the US Special Operations Command, and the other Services, the Air Force has focused on better ways to meet the specialized needs of theater commanders. A major improvement to SOF will be the introduction of the fixed-wing, tilt-rotor CV-22A. Other key enhancements include MC-130H procurement, AC-130U development and procurement, and modification of H-53, HC-130P/N and C-141B and C-130E Special Operations Low Level aircraft.

The Air Force is intensifying efforts to increase the effectiveness of all force projection assets in support of national objectives. These forces are needed to meet the threat across the spectrum from low-intensity conflict and contingency operations to the highest levels of conflict.

SPACE

Space systems support all mission areas. The Air Force has developed a long-term program for ensuring the US takes advantage of space. The first priority is to develop and maintain assured access to space regardless of single-element failures in space transportation. The approval of $113 million in FY 87 reprogramming funds and $316 million in FY 88 transfer authority indicates the support of Congress. The Air Force needs continued support from Congress for the space launch recovery program to succeed. An additional $645 million during FY 89 is required to procure 25 additional Titan IV Expendable Launch Vehicles to lift the largest payloads; nine additional Delta IIs and a competition for 10 Medium Launch Vehicle IIs for cost-effective launch of smaller payloads.

Other efforts in space include developing a long-term survivability enhancement program for space systems critical to national security, and continuing development of enduring, integrated surveillance systems to provide the National Command Authorities with unambiguous warning of attack.

READINESS AND SUSTAINABILITY

Success in combat depends on a balance among force structure, modern equipment, well-trained personnel, effective repair facilities, sufficient spare parts, appropriate munitions and adequate fuel stocks.

The Air Force readiness and sustainability goal is to provide the resources required by our fielded forces to perform their missions. The Amended FY 88/89 Budget places high priority on maintaining combat readiness and initial sustainability. Although the pace of progress will slow, this year's budget enables us to sustain spare parts stocks and equipment inventories for mobility forces, improve the inventory of modern munitions, and continue realistic training for our people.

The condition of facilities, housing and installations also directly affects combat capability. Hangars, runways, missile silos, launch control centers and operations facilities must be ready to function during hostilities. Medical facilities, family housing, dormitories, dining halls and community areas provide for our people's basic needs, contribute to morale, welfare and productivity, and help the Air Force retain quality people. The military construction funds in the Amended FY 88/89 Budget are carefully balanced between new construction and facility maintenance.

CONCLUSION

The Air Force Amended FY 88/89 Budget balances the need for quality people and quality forces. However, without the stability in programming and budgeting that only Congress can provide, we cannot deliver quality programmed forces in sufficient quantity at acceptable costs to meet the threat.

Numerous studies and reports have stated that stability in defense spending is the most effective method for improving management and reducing costs. The unstable funding environment of the last several years disrupts long-term defense programs. Similarly, the timeliness of the Authorization and Appropriations Bills, which affect all military operations, is crucial to better planning.

We are prepared to work with the Congress to ensure the United States Air Force remains a formidable aerospace force, today, and in the future.

CHIEF OF STAFF, U.S. AIR FORCE

STATEMENT OF GENERAL LARRY D. WELCH

SUPPORT OF UNIFIED AND SPECIFIED COMMANDERS

General WELCH. Thank you, Mr. Chairman.

I would just add a few brief comments to those of the Secretary.

I would begin by stressing that the Air Force is guided by the national military strategy of deterrence as we equip and train our forces to support the operational requirements of the Unified and Specified Commanders. That has not changed; the threat has not abated. The deterrence strategy is unwavering, and it has worked for 43 years.

What has changed, obviously, is the level of resources available to the Air Force. Consequently, you will see the results of very difficult choices in this budget.

Let me very briefly highlight just a few areas of Air Force support that are central to the Unified and Specified Commanders' capability requirements and also note some specific continuing shortfalls in our ability to fill the requirements of the Unified and Specified Commanders.

AIR FORCE PEOPLE

The most valuable resource that the Air Force provides to those field commanders is obviously the force of dedicated, high quality Air Force people. The Secretary has made reference to what is required to support those people, and I would simply urge this committee to fully support those people programs required to maintain that force of high quality people.

LAND-BASED ICBM

There is no more important task facing these quality people operating quality systems than strategic deterrence. An essential component of strategic deterrence is the land-based ICBM. The ICBM provides the highest return in day-to-day alert at the lowest cost. It provides prompt response, pinpoint accuracy, and reliable command and control. With the support of this committee we have made progress over the past few years in modernizing this leg of the Triad along with the other two legs of the Triad, and because of that, we have a significantly better strategic deterrent capability today on board and flowing into the force than we had when we began this process.

The basing mode of rail garrison for the Peacekeeper missile has compelling logic in support of it: lower day-to-day cost, prompt launch capability and rapid dispersal to a virtually unattackable posture.

It is very clear to us that the only strategic concept that makes any sense is deterrence. And if deterrence fails, the results are clear and the results are disastrous, and deterrence simply must work.

BOMBER LEG OF STRATEGIC TRIAD

The bomber leg of the strategic Triad has also received this committee's support. We continue to proceed with the B–1 and the B–2. Both are required, and we ask your continued support for those.

But in spite of the importance that we accord strategic nuclear deterrence, strategic forces have shared in the budget cuts that you see in this budget, and we have underfunded very important elements of strategic deterrence. Funding for the modernization of Warning and Strategic Command and Control Network has been reduced, and although the U.S. Air Force is attracted to the Small ICBM, we cannot afford to reduce other forces, mostly conventional, by the more than $36 billion that we would have to add to the Air Force budget in order to complete that program.

THEATER NUCLEAR FORCES

At the theater nuclear level, the INF treaty will eliminate a large Soviet advantage in two classes of weapons, but the imbalance remains in battlefield nuclear weapons and in dual-capable aircraft, and in conventional weapons. The force improvements previously recommended by the theater commanders are essential to deterrence at the conventional and theater nuclear level, and they are supported in the Air Force budget before you.

TACTICAL FORCES

Budget impacts are also evident in the tactical forces, where the Air Force provides support to every Unified and Specified Commander with theater responsibilities. We are committed to ensuring that those forces are trained and equipped to support joint operations. That requires flexible tactical forces capable of supporting land and sea operations wherever on the globe such support is required.

While this budget forces a reduction in tactical fighter forces, we will use this opportunity to accelerate the modernization of the Reserve forces.

FORCE READINESS

The Air Force budget request balances the need for readiness of the forces today and for necessary attention to ensure that we have ready and capable forces tomorrow. The committee is well aware that the Operations and Maintenance account is the backbone of readiness. The smaller force we are structuring in this budget must be even more ready. The Air Force budget includes the operations and maintenance funding required to support the force structure, and we urge the committee to fully support this O&M requirement.

Upgrades to existing ICBM's and aircraft and follow-on versions of those aircraft have greatly improved capabilities at a far lower cost than designing new systems. We have lots of examples of that. I will not spend your time on those today. We expect that future close air support requirements can be met with variants of existing aircraft, although we are examining a full range of options, and most important, the Army and the Air Force are in full agreement on the requirement for close air support and on the approach to satisfying that requirement.

STRATEGIC AIRLIFT CAPABILITY

All the theater commanders agree that credible conventional deterrence demands an increase in strategic airlift capability, and for that reason you will find the C–17 development and procurement is well supported in this budget. The commanders-in-chief around the world have also identified a need for expanded special operations forces. We are building Air Force special operations capabilities to support the most demanding conventional requirements as well as special tasks such as counterterrorism.

So in conclusion, we have carefully examined Air Force priorities. We have placed emphasis on the programs essential to deterrence across a range of responsibilities and commitments. This budget request was crafted in coordination with theater commanders and their supporting component commanders, and it will provide the Unified and Specified Commands with the best air support attainable within the resources available.

I thank you for your attention and look forward to discussion.

COMMENDATION OF SENATOR STEVENS

Secretary ALDRIDGE. Mr. Chairman, if I may, I want to make a brief additional statement. Since Senator Stevens is here, I would like to point out something for the record that has happened over the past 3 or 4 years that is directly attributable to the great work that Senator Stevens has done, and we will see the fruit of that labor this year, and that is our space launch recovery program.

As you know, we started about 4 years ago beginning to build a program that would complement the shuttle program, and then we experienced over the past 2 years a series of space tragedies with the Challenger and two failures of the Titan boosters. This year we will see those programs getting back in production and hopefully the launch of the shuttle. We will see the Titan IV launch this year. We will see the Titan II launch this year. We will see the Delta II launch this year. We will see a decision on a new MLV II, a version for Defense payloads, and an extremely strong commercial ELV production base that will begin to bring back into this country the launching of commercial satellites.

And I would just like to, for the record, state that a great deal of that is a direct result of Senator Stevens' work of getting those programs through the Senate and through the Congress of the United States.

And I would like to say, from the Air Force as well as our Nation, we appreciate what he did for us.

FIVE-YEAR PROGRAM REDUCTIONS

Senator SASSER. Thank you, Mr. Secretary.

Mr. Secretary, General Welch has indicated in his prepared statement that another approximately $100 billion, including $21 billion in fiscal year 1990, will have to be cut from Air Force programs over the next 5 years to accommodate the fiscal constraints.

My question is will these reductions primarily be accomplished through further force structure reductions or will they be accomplished through actual cutbacks or terminations in R&D programs and procurement programs?

Secretary ALDRIDGE. They are a combination of both, sir. We are in the process now of projecting the fiscal year 1989 budget into the next 5-year program. We have accommodated the 1989 compromise agreement and are now working within a much lower budget figure for the next 5 years.

The Air Force will have to cut $97 billion over the next 5 years from what we anticipated we were going to have based upon the fiscal year 1989 budget that was submitted by the President last year. So $97 billion must come from the Air Force alone, and I believe the number is close to $300 billion from the Department of Defense. We will take those through a combination of program terminations and force structure reductions. We are trying not to take those from the readiness and sustainability accounts.

We have cut, in fiscal year 1988 and fiscal year 1989, approximately $10 billion from the Air Force budget for each of those 2 fiscal years. About 80 percent of those cuts have come from the investment accounts, and only about 20 percent have come from the operations and maintenance accounts. In the outyears we will have to cut force structure because we want to keep a smaller force but a ready and combat capable force. But we are going to have to accept a smaller force than we had previously predicted.

FORCE STRUCTURE REDUCTIONS

Senator SASSER. Well, on the question of cutting force structure, particularly active force structure, Mr. Secretary, many of us on the committee have expressed concern that the Air Force budget for the first time in a number of years appears to shortchange the Guard and the Reserve. We have particularly expressed concern with the impact of force structure reductions to the Guard and the Reserve.

REDUCTIONS IN AIR GUARD FIGHTER WINGS

Your budget, as I read it, indicates reductions in Air Guard fighter wings and initiates a 2-year reduction of all of the Guard's tactical airlift wings. Apparently you are planning to reduce these Guard airlift units from 16 planes down to eight planes. And you propose to begin this reduction by starting with an Air Guard unit in my hometown of Nashville, TN.

Now, the question comes, how much are you saving in fiscal year 1989 by reducing these units?

Secretary ALDRIDGE. Let me address one part of it, and then General Welch will provide some specific responses to your question.

We don't want to make any of these cuts. We believe these cuts are far too large for what we need to do for our objectives in the Air Force and the Defense Department. So none of these cuts are something that we believe ought to be done, but we are going to have to do them to live up to the budget compromise.

I will ask General Welch to address the specific part of the Air Guard and Reserve force.

General WELCH. Yes, sir. We certainly need no urging to build a healthy Guard and Reserve force. Our devotion to that effort has produced the finest Reserve force in any service in any country in the world.

However, the reduction in the size of the C-130 force is largely driven by the fact of life that the C-130s have been around a long time. The C-130As are increasingly not worth the cost of maintaining them. And in order to keep the remaining C-130 units well equipped with aircraft, since that production line is virtually closed, we have no choice but to draw down some C-130 units in order to keep the rest of the units healthy and worth the effort we put into them.

FIGHTER FORCES

In the fighter forces, our 2-year plan is to increase and accelerate the modernization of the Reserve forces by early retirement of F-4s. Now, the reason for early retirement of the F-4s in this budget environment is very clear, and that is that we get the least capability for the most money by keeping F-4's, which is not an economic way to do business.

We will save over this 5-year period that we are concerned with some $500 million with these reductions and modernization efforts. More specifically, in the fighter forces, we will convert 24 PAA F-4 units that were built up during the buildup of the fighter force to 18 PAA F-16 units. When we do that, we increase the combat capability of the units since 18 F-16s are clearly much superior to 24 F-4s, and we save $15 million per squadron per year as we do that.

And all of these bits and pieces of early retirement of C-130As and F-4s (which are old, becoming increasingly expensive to maintain and providing progressively less combat capability) allow us to buy another $500 million worth of F-16s, which we will then use to accelerate the modernization of the Reserve forces.

So all of this effort that I have just described is very specifically aimed at making the Reserve forces more capable and will have that impact.

PILOT ATTRITION

Senator SASSER. Well, now, Secretary Aldridge indicated that the number of pilots that you are losing contrasting with the number of new pilots that you are putting into service every year leaves you a deficit, I think, of 600 pilots last year.

Is that correct, Mr. Secretary?

Secretary ALDRIDGE. The number of pilots that were trained versus the number of pilots that were lost because of attrition, resulted in a net decrease of 600.

INCENTIVE PAYMENTS TO PILOTS

Senator SASSER. Well, how much are you requesting in this budget for incentive payments to keep active pilots in service? As I understand it, you want a bonus of $8,000 per year for a re-enlistment by a pilot, is that correct?

Secretary ALDRIDGE. No, sir, it is not quite correct.

We have asked for $54 million in this budget for an incentive program that will pay up to $12,000 per pilot per year, and we are now trying to work out the details of specifically how much but we are requesting up to $12,000 per year per pilot.

Senator SASSER. So you are having a tough time keeping your pilots in the active force because you are losing them to the airlines, I presume.

Secretary ALDRIDGE. There are quite a few going to the airlines.

AIR GUARD AND RESERVE AIRLIFT AIRCRAFT

Senator SASSER. Well, it just strikes me, Mr. Secretary, as penny wise and pound foolish for the Air Force to be reducing the number of airlift aircraft that are assigned to the Air Guard and the Reserve at a time when you are having trouble keeping pilots in the active service. You are asking for $54 million to increase bonuses for pilots to keep them in the active service. Some observers say that figure is underestimated by about $30 million; while we have in my home State of Tennessee pilots clamoring to get in the Air Guard and to stay in the Air Guard.

So instead of reducing the effectiveness of the Guard and Reserve, I think we ought to be accelerating its modernization and providing more of the new C–130H's to replace the remaining A models.

Now, I can understand the reluctance of General Welch to want to keep the F–4's and to want to phase those out and get the F–16's, and I can understand perhaps the desire to keep fighter pilots in the active service so they can fly two or three times a week and maintain their proficiency in air-to-air combat, et cetera, precision flying. But what I do not understand is why we do not try to maintain these pilots in the Air Guard who essentially provide the airlift or provide pilots for strategic and tactical airlift. In other words, they are flying cargo from point A to point B. Many of them, some of them now are airline pilots that are moonlighting to some extent with the Guard.

I am familiar with our Air Guard pilots in my State, and I will just tell you, they are terrific pilots. Most of them are former active service pilots. They have got many, many hours of flying time. Frankly, I think some of them are better than the pilots in the active service, to be perfectly blunt about it. But these are first rate individuals, and it appears to me that if we are letting these guys go while on the other side of the house we are scrambling around to raise money to provide incentives to keep their counterparts in the active service and not quitting to go to work for the airlines, that that is false economy.

How do you respond to that?

Secretary ALDRIDGE. Well, sir, let me agree with you that our Guard and Reserve pilots are absolutely outstanding, and they prove it in all the competitions that we hold; in airlift and air-to-ground competition and air-to-air competition. We have no problem with that. And the Chairman knows the Air Force has been very aggressive in maintaining a very strong and active Guard and Reserve force. We call it the Total Force, and they are an essential part of the Air Force. We are trying to modernize the Reserve Forces as fast as we possibly can, but despite these budget cuts which we do not like to take because we do not expect that it is going to benefit our country over the long term, there will be an increase in the combat capability of the Guard and Reserve forces, as General Welch pointed out.

I will let General Welch respond to the specifics of the pilots, but only 40 percent of our pilots that leave the Air Force go to the Guard and Reserve, and I do not know of any clamoring at the door to get in; but, we use as many Guard and Reserve people, pilots as we can get, as long as they have the quality that we are looking for. And they do very, very well for us.

RETENTION OF ACTIVE FORCE PILOTS

General WELCH. I think there is no conflict between the purposes that are implicit in your remarks, Senator, in that we are delighted that we are able to retain this experience in the Guard and Reserve forces. But that issue really has nothing to do with retention in the Active Force because providing more opportunities for active duty pilots to go to the Guard and Reserve only accelerates the movements of pilots through the active force.

We still have to have a certain cadre of experienced pilots on active duty, and the only way that we can retain the numbers of experienced pilots required, regardless of the size of the Active Force, is to provide some incentive that permits those experienced pilots to stay with us in the required numbers.

So we are talking a shortfall by the end of this period of some 2500 pilots.

Now, the impact of that is not so much driven by the total size of the active pilot force; it is driven by our ability to retain the experienced pilots that it takes to run the training programs and command the squadrons and provide the standardization and evaluation and to provide the people in research and development, all of which are required to support the Total Force. Regardless of whether the aircraft are in the Active or the Reserve, we have to have those experienced pilots to support the Total Force.

So we have to improve our retention or we cannot possibly maintain a healthy force, regardless of the Active-Reserve mix.

IMPACT OF AIR GUARD AIRCRAFT REDUCTIONS

Senator SASSER. Well, General, let me ask you this. What happens to those experienced pilots in multiengine aircraft with hundreds of hours of flying time in these C-130 squadrons, Air Guard squadrons, when you reduce them from 16 aircraft to 8 aircraft? What happens to those pilots in the Air Guard?

General WELCH. What happens in these cases, as we reduce force structure, is we reduce the number of pilots by attrition. No one really leaves us involuntarily, we just take on fewer new pilots.

Let me point out something, though. More han half of our airlift pilots are in Reserve forces. That is a deliberate economic decision on the part of the Air Force. The impact that has on the remaining active duty pilots, quite frankly, is that for economic reasons we are abusing active duty airlift pilots. We are abusing them by forcing them to take all of the tough missions, that is, the missions where the return date is uncertain. The consequence is that the average active duty C-141 pilot has to take leave if he wants to take his son to the baseball game on Saturday a week from now. Otherwise he cannot have any certainty that he is going to be there. The reason is that we have drawn down the active duty airlft crew force to the point we simply do not have enough crews to handle those missions that are not suitable for Reserve forces.

That is not a pejorative comment about the Reserve forces. The Reserve forces are capable and competent, but they are Reserve forces; they are not active duty forces. More than half of the airlift crews in the Reserve forces is probably beyond what makes operational and economic sense. Nonetheless, we have moved to that position deliberately, consciously, knowing the kinds of problems it was going to create for us because mg the economics.

Now we are at the point where it costs us money to move more airplanes to the Reserve forces in the strategic airlift side; and, the reason it costs us money is that the tempo of operations is now driven by peacetime airlift demands, not by the requirement to train crews. We save money when we put things in the Reserve forces because that stability and experience allows the Reserve crew member to maintain proficiency with less flying. When the flying hour program is driven by peacetime airlift requirements, then the operating tempo is not set by training, it is set by airlift requirements, and we are at that point.

And again, we arrived at that point with a deliberate, careful calculation because we want to put everything in the Reserve forces that makes economic and operational sense, and the budget would drive us to that.

So as I said before, we need no urging to do that. We have other, very powerful forces driving us to that automatically: the budget.

C-141 ASSIGNMENT TO AIR GUARD

Senator SASSER. Let me ask one other question, and then I will defer to my colleagues.

It is my information that the Air Force is not currently planning to release any more C–q41's or C–5 strategic airlift aircraft to the Guard until the C–17 deliveries begin.

Is my information correct on that matter?

General WELCH. Yes, that is correct, and for two reasons. One which I have just spent some time on, is the operating tempo drives the use of C–141's, and we save no money by putting them in the Guard.

A more important reason, perhaps, every C–141 that we take from an Active unit, we also take from the Reserve Associate forces. More than half the crews on those C–141's are Reserve forces crews. So when we take a C–141 out of the Active, we also take it out of a Reserve Associate unit, and we move it from one Reserve component to another Reserve component at an increased cost, which does not seem to make a lot of sense to us.

Senator SASSER. Well, do you know when you plan to designate the next C–141 Air Guard unit?

General WELCH. Well, when the C–17 comes in, of course, then we will continue this movement of strategic airlift into the Reserve forces.

Senator SASSER. You do not have a date, then, for designating the next C–141 Air Guard unit.

General WELCH. Let me give that for the record. We know what the date is, but I do not have it in my head.

Senator SASSER. Would you supply that for the record, please, General?

General WELCH. Yes.

[The information follows:]

C–141 AIR GUARD UNIT

All programmed conversions for which final decisions have been made were announced last February. Conversions beyond that are still being worked and will be announced at the appropriate time. The ANG currently operates one C–141 organization which is the 137 TAW at Jackson, Mississippi.

ALASKA SEARCH AND RESCUE UNIT

Senator SASSER. Senator Stevens?

Senator STEVENS. Thank you very much, Mr. Chairman.

Thank you, Mr. Secretary, for your comments concerning the things we did back when I was Chairman of the subcommittee, and I am pleased to hear that progress report.

Secretary ALDRIDGE. It is a great story, Senator, and we think we are back in the space launch business again.

Senator STEVENS. Well, that is good. I think that is essential.

Let me start off with an Alaska problem first. In the period after statehood, the Air Force continued to have the pre-statehood operational problem of long range search and rescue in Alaska. We know that there has been an increase in the threat in Alaska that needed more F–15s, and the decision was made to have the Air Force cease the search and rescue operations. At that time we arranged to create a new Air National Guard unit that will undertake their mission.

However, it was just a few weeks ago that I learned that the Air Force has decided to discontinue the existing search and rescue unit before we can get the transition completed and get the new equipment to the Air Guard. We did have four new MH–60 helicopters, and two HC–130 tankers coming in. The primary beneficiaries of this long range search and rescue unit will be the military, and with a State that is one-fifth the size of the United States, as wide literally as the country, and as deep as the country, it is a difficult problem. We do not have any civilian capability for that. It must be a military. Now it will be the Air Guard unit.

Can you tell me, is it really necessary for the Air Force to move that existing unit out that quickly? Can we not work out some kind of transition between the regular Air Force and this new Air Guard so that we can phase one out and the other in without a loss of capability?

As I said, I do not think there is any other capability in the State that could handle that refueling that is necessary for long range search and rescue.

Secretary ALDRIDGE. Yes, sir.

Let me address the general statement, and maybe General Welch can talk about again some of the specifics of the units.

This decision was driven financially. Again budget pressure forced us to try to look for anything we could find that could save us some money as quickly as possible. As you recall, we had to take $10 billion out of the Air Force from the President's 1989 budget to this one, and we were getting desperate and looking for any dollars, $1 million or $2 million; it was getting down to that level. It was something we probably would not have done had it not been for the budget pressure.

However, we did feel that the marginal contribution of that unit, given the financial pressures, was such that we could afford to phase it down because of the other military capabilities that existed there.

However, there has been a concern raised by the Alaskan Air Command. We did send a team up there this past March to look at the requirement process. They have completed their review. They have come back in to the Pentagon, and a decision package is working its way up to General Welch and myself to readdress that issue, and we will do that.

General Welch, do you have anything?

General WELCH. I really have nothing to add to that. I am waiting for the package to arrive which re-examines the operational requirement to be sure that we have examined the operational requirement with the rigor that we ought to.

Senator STEVENS. Well, I hope you can. I do not think the Coast Guard would be able to fill in with the same capability. I think that we ought to have a staggering of military flights in Alaska, and leave half of the regular Air Force unit there with the hopes that we can get an early delivery and start the Air Guard unit before the end of this year.

Secretary ALDRIDGE. Yes, sir.

Senator, the Commander of the Alaskan Air Command has raised that same point, an operational requirement, and that has caught our attention. We will address it.

ALASKA OTH-B RADARS

Senator STEVENS. Thank you.

I am informed the House Armed Services Committee yesterday deleted $164 million that is requested in the President's budget for the over-the-horizon Backscatter radars in Alaska, and since you are here now, I would like to see if we could get your impression of the priority that we should attach to that radar.

Secretary ALDRIDGE. Senator, I have not seen the specific language. I gather what you are saying is that it is the first fan or sector that would go into Alaska. I gather that is the one that was cut.

One of the strongest arguments made for that was made by the Commander in the Pacific, the need to have that OTH–B radar in that part of the country because of the upbeat tempo of Soviet flying in that region and the need to have that additional warning capability. And we have felt all along that it is an essential part of the over-the-horizon coverage, entire coverage for the country, which includes the north warning system, OTH–B in Alaska, and the OTH–B systems that would be on either coast and the central portion of the United States.

It is an essential part of that complete coverage package, and we felt it was essential to put it in our budget, and would continue to support it.

B–52G'S

Senator STEVENS. Let me ask you about the B–52s.

The CBO, Congressional Budget Office, has informed us that if the Air Force pursued its original B–52G retirement program, it would save approximately $4 billion in the next 4 years, but instead, we have now been requested to approve a life extension program for the B–52G force. That is at the same time as we see other changes such as the changes that the Chairman has mentioned concerning the Guard and Reserve squadrons. But we do not see the savings involved in a B–52G upgrade.

Can you tell us why should we upgrade the B–52Gs in view of the planning for the B–1 and then Stealth follow-on to that? If we upgrade the B–52Gs, are we not making a decision to postpone Stealth?

General WELCH. Let me say what I can in an open hearing, and then perhaps provide a more complete classified answer for the record.

But I will say that the adjustments to the B–52G retirement plans are driven by two factors. One is the decision to retain some B–52s in the outyears in the conventional role because of the theater commanders' great demand for long range convgtional aircraft, particularly in the Pacific because of the distances involved. So part of retaining some B–52Gs for a longer period of time has to do with future conventional plans.

Part of the retention also has to do with fact-of-life changes in the schedule in other bomber programs, and I really should not say any more than that in an open hearing.

Senator STEVENS. Well, I would like to see the classified portion.

General WELCH. Yes, sir.

Senator STEVENS. Several of our Members raised the Congressional Budget Office Report, and we ought to have your response before that comes up, and if it takes a classified session, we will do it.

General WELCH. Yes, sir.

Senator STEVENS. Lastly, Mr. Chairman, I have a series of questions I would like to submit for the record, and Senator McClure asked to have questions for the record.

[The information follows:]

B–52 RETIREMENT

B–52Gs will continue to play a signifigant role both in the SIOP and in conventional operations for some time to come. [Deleted.] Upgrades to the capabilities of these B–52G aircraft in no way implies a decision to postpone the B–2. The tight budget environment of today makes it imperative that the US consider every alternative to maximize capabilities of existing resources. Upgrading B–52Gs is a prudent and cost-effective means to effecuively utilize this national resource.

CIVILIAN EMPLOYEE FURLOUGH

Senator STEVENS. The Air Force has, I am told, proposed to furlough 84,000 civilian employees, primarily from air logistics centers. Those were not reductions mandated by Congress. They were reductions that the Air Force allocated against the funds in order to protect other activities, which I think we understand that there had to be some protection, but the shortfall in civilian personnel was only $50 million out of a total account of $19.7 billon that is allocated for civilian personnel.

Now, I do not understand the reason for allocating so much to the civilian employees in view of the level of request that was made for civilian employees.

Could you tell me, was there a decision made that the functions of these centers were such low priorities that they should go as opposed to having some across-the-board allocation dealing with flying hours and a delay in rotations and other things that could have accomplished the same goals using some of the military funds?

Why should they all go to the civilian personnel fund?

Secretary ALDRIDGE. Sir, in the budget you spoke of, the Air Force was reduced by the congressional cuts for fiscal year 1988 by over $2 billion. Unfortunatel, those cuts came later than we would have liked because of the delay in getting the Appropriation bill to us. So we were about 3 months into the fiscal year before we realized that there would be that substantial level of cuts.

In projecting the outyear, the O&M dollars, realizing we cannot transfer dollars between the various appropriation accounts, in looking at the projection for the O&M budgets for the outyears, we determined that there was a substantial shortfall in the O&M budget by the time we reached the end of the fiscal year.

We then allocated the O&M cuts according to the commands by roughly a percentage of the total that they had in their O&M. We believe that the larger O&M commands could absorb it in different ways, but we allowed the commands to determine what was the best way to take those O&M cuts and minimize the impact upon their mission. We tried not to dictate that from the Pentagon. That was the wrong way to go. We figured the commands were the better choice to determine how they were to take the cuts.

Some commands have a higher civilian account than others. Others are more flying hour associated. But we allowed them to make those d}ts. The Air Force Logistics Command determined that they needed to furlough for approximately 10 days, 10 days only, the 84,000 people. That was their first assessment of what the impact of their O&M cut would be, and they believed that that was a better way to take the cuts than laying people off, the permanent people. They also had to go and look at the temporary hires. They had to lay those people off, rather than deferring other projects in their command.

So their first cut was a 10-day furlough for 84,000 people.

As we began to work the problem, and we did not want to do this—none of us want to do this—as we began to work the problem, there were ways that we found. We did not find any money, we reallocated our resources, and that 10 days dropped to 4 days. Now we are working with the Congress with legislation to try to find the funding, via transfer authority, that would permit us to use funds, prior year funds or other type of funds, to avoid the furloughs altogether.

So furloughs, and even the layoffs of the temporary people, have been deferred in hopes, betting on the come, that we will get this transfer authority legislation through the Congress. If we do that, then our problems can be solved, and we will not have to do any furloughs at all.

ALLOCATION OF O&M REDUCTION

General WELCH. Could I add a word, Senator Stevens?

I should point out the allocation of this O&M cut to AFLC was lower than the allocation to the other commands, not higher, considerably lower. So in recognition of the fact that AFLC was going to have this difficulty, we placed more of the burdens on the other commands, and as a result of that, just to show how the pain is spread, at this moment the Tactical Air Forces do not have the O&M funds required to complete their flying hour program this year. They will run out of the money it requires to fly airplanes before the end of this year.

The Tactical Air Forces have drastically reduced training deployments. They have also initiated a hiring freeze, so the relative level of pain is probably greater in the other commands than in the AFLC. It just does not affect that particular——

Senator STEVENS. Well, I know that it was late when we got the budget settlement last year. It was well into the fiscal year. But had we not gotten it, the Gramm-Rudman-Hollings limit would have applied, and you would have had probably $2 billion less than you ended up with, and theoretically, we are spending at that lower rate during the period until we got the agreement.

And now I am told that the Armed Services Committee has joined the Office of Management and Budget, and I am certain that the appropriators of both the House and the Senate will love this—and they have decided that what they are going to do is fund these amounts out of the congressional add-ons that were put into the appropriations bill, not those that were in the authorization bill, but those that were in the appropriations bill.

There is a nice little rhyme there because it is about the same amount of money, but it is apples and oranges, basically, and I wonder about the impact of trying to find an easy way out of allocating the costs. The costs were brought about by the budget settlement which gave you $2 billion more than you had any reason to expect we could get this year.

Secretary ALDRIDGE. Yes, sir, but there are some other things the budget did not do, and we had to absorb within the O&M account that which we had not planned for as well, some of the medical cost increases we have had to absorb, civilian pay raises we have had to absorb, the overseas currency fluctuations which are changing every day we have had to absorb as well.

So while we recognize that back at the Gramm-Rudman-Hollings issue, we may have ended up with a lower O&M, we also had not recognized that these other costs would be added to the O&M account as well. So we still had to plan for a furlough. None of us like to do this, Senator, and we are working hard to try to minimize this problem as best we can; and, it will take legislation because we need the reprogramming authority to use other funds to pay for this; and, unless we get those reprogramming authorities, we will have to go ahead with the furloughs and layoffs of the temporary people.

And what we are doing, I keep pushing that to the very last minute, and hopefully we can solve the problem by an agreement between the administration and the Congress to solve it in a way that minimizes the impact on our people.

ALLOCATION OF REDUCTION TO CIVILIAN EMPLOYEES

Senator STEVENS. Well, we will look at it, but since it is going to happen in the appropriations bill, I would advise you not to make the decision between the Department of Defense and the OMB and the authorizing committees because that means it is just not a meeting of the minds. There is one group that is not involved, as I understand it, and it is going to be very difficult for you if it continues down that course.

I would just make this one comment again. It just seems strange that in many portions of the Department of Defense the allocation was made against civilian employees, that the reductions have been taken in many areas. In my State, for instance, the Army took its basic cut against civilian employees.

Secretary ALDRIDGE. Yes, sir. The reason for that is those are employees that are funded in the operations and maintenance account. There are other civilian employees that are funded in the research and development accounts, but they do not have the problem. The research and development account is not the one that has the problem; it is the O&M account, and until we get the authority to reprogram monies from other accounts into O&M, that is what we are looking for. If we can get that authority, then we can solve this problem. But because they are paid out of O&M, that is why we have had the difficulty.

Senator STEVENS. All right.

AIR FORCE PERSONNEL ACCOMPANIED OVERSEAS

Could I make a request, and I will make a similar request of each of the departments, and that is I would like to have—you can pick a date, whatever date you want, February 1 or whatever in this year—and I would like, for the record, to know how many of your Air Force people who are stationed out of the country were accompanied by their families, military and civilian.

[The information follows:]

OVERSEAS DEPENDENTS

As of 16 March 1988, including Alaska and Hawaii, 65,819 enlisted personnel, and 12,938 officers, and approximately 2800 civilians (US hires) were accompanied by dependents outside the CONUS. Excluding Alaska and Hawaii, 57,066 enlisted members, 10,905 officers and approximately 2,000 civilians (US hires) were accompanied by dependents overseas. The civilian data (US hires) have been adjusted to avoid double counting those civilians who are also dependents of military personnel.

OMB APPORTIONMENT GUIDANCE

Senator DECONCINI [presiding]. Just to carry on for a moment, Mr. Secretary, it seems clear to me from what you lay out that if we do not go along with the reprogramming, you are going to have a huge problem that could have been avoided had you followed the OMB recommendations or gone to the congressional budget resolution or the potential Gramm-Rudman sequester.

Why did you not do that? Is that a much better thing to do if your Office of Management and Budget had recommended that you reduce those expenditures and to go full blast into the next fiscal year? As I understand, that is what you did.

Secretary ALDRIDGE. I do not believe that is exactly the way I understand the process. We were working under the assumption that we were going to get an O&M budget that at the time was what was being worked on in the compromise; but, what we had not anticipated at the time were these additional absorption factors that went into our O&M account that cut us by almost $2 billion.

Senator DECONCINI. Did you receive a recommendation from OMB? Maybe I am incorrect.

Secretary ALDRIDGE. Neither General Welch nor I recall getting an OMB recommendation, nor does the Comptroller of the Air Force. So we are three out of three so far.

Senator DeConcini. I am told it is known as apportionment guidance from OMB for the first 45 days of the fiscal year. You did not receive that? We are told that you had that.

Secretary Aldridge. If there is any correction for the record, we will get it back to you, but none of us are aware of that.

[The information follows:]

FY 88 O&M Apportionment

Although OMB did not provide any recommendation which predicted the overall, appropriated level of O&M funding for FY 88, OMB did provide the routine letter apportionments under both Continuing Resolutions. These apportionments contained no OMB guidance pertaining to O&M obligation activity other than the apportioned dollar amount. These apportionments covered both obligations and the amounts for administrative reservations which must be made in many cases; e.g., during the contracting process prior to obligation. These apportionments provided $5.8 billion in O&M funding for the 41-day period and $7.4 billion for the 77-day period. The actual utilization of this apportionment (Obligations plus administrative reservations) was $4.9 billion at 30 days, $6.5 billion at 60 days, and $7.9 billion at 90 days, exclusive of reimbursements which are automatically apportioned. The apportionment periods did not coincide with end-of-month accounting reports, but it is evident that the Air Force did not exceed the routine apportionment control.

T-37 SLEP PROGRAM

Senator DeConcini. I have a number of questions from Senator Byrd, Senator Stennis and Senator Hollings, as well as myself, that we will submit.

Mr. Secretary, let me address a few other subject matters. Your fiscal year 1989 budget request includes $12.9 million for the service life extension program for the aging fleet of T-37 training aircraft.

While for the moment I see no reason to oppose this effort, I am concerned that the cost may be considerably more than present estimates indicate.

What contingency plans do you have in the event that the SLEP program costs increase significantly?

Secretary Aldridge. Sir, I am not familiar with any problem in the service life extension program at this point in time. That is $12.7 million, I believe, rather than billion.

Senator DeConcini. Yes, I am sorry.

Secretary Aldridge. It is the beginning of a program that is essential, as we know. The difficulty we went through a year or so ago on T-46, we need the service life extension program for the T-37 to get it——

Senator DeConcini. Are you very comfortable with this figure?

Secretary Aldridge. Yes, sir, and I have no indication that we are in any great deal of uncertainty in those numbers at this point. The program has been laid out by our people, and from what I understand of the technical characteristics, it is a very low technology program.

SR-71 BLACKBIRD

Senator DeConcini. Okay, Mr. Secretary, thank you.

The SR–71 Blackbird performs vital reconnaissance flight missions. While I know this is a classified program, I believe we would be allowed to generally discuss the budget request.

As I understand, this program has been significantly curtailed.

Secretary ALDRIDGE. That is correct.

Senator DECONCINI. In light of the imperative need to monitor and verify the agreements outlined in the INF Treaty, which will probably be ratified this spring, is it prudent to cut funding for the SR–71 mission?

Secretary ALDRIDGE. Sir, let me clarify a point. It is not used for monitoring INF or START agreements.

Senator DECONCINI. None?

Secretary ALDRIDGE. No, sir. That required overflight of the Soviet Union, and we do not have any plans to do that in peacetime with the SR–71.

The SR–71 costs us, in operation and maintenance, the equivalent of two tactical fighter wings. The cost of the program versus its output is what we would consider to be marginal in this budget environment. Again, it was one of these situations where we were looking for ways to cut the funds and cut force structure to get down to the budget level.

Without going into other issues of classification, let me just say that we felt the scaledown of the program at this point in time was a prudent thing for us to do given other alternatives to do the same job. That is probably as far as I can go in this area, sir.

SMALL ICBM FUNDING

Senator DECONCINI. Okay. Well, you have clarified a point for this Senator's information.

The Air Force is apparently stressing the Peacekeeper deployment in the area of ICBM modernization. Evidently you favor the deployment of a mobile garrison rail basing and upgrading of the Minuteman forces.

The funding for the Small ICBM, Midgetman, is provided at a minimum level of $200 million, which would preserve the option of developing this program to the next administration.

In regard to the mobile garrison rail basing, can you comment upon its advantage in terms of stability, deterrence, reaction needed to deploy and cost compared to the Midgetman?

Secretary ALDRIDGE. Yes, sir. Again, I will give you a general comment, and General Welch can talk about the specifics as he sees fit.

The program is a keep-alive program with $200 million requested in fiscal year 1989 down from about $700 million in fiscal year 1988, which we currently have in the program.

Given the budget environment, again, that we are operating under, there is no room in the Air Force budget for the Small ICBM. It costs approximately $30 billion more for the Small ICBM over the Peacekeeper program.

The only way that we would see our ability to buy the Small ICBM over the Peacekeeper would be to cut conventional forces by that $30 billion that would be needed to pay for the Small ICBM.

I have stated before I think that would be to the disadvantage of this country to decrease our conventional deterrent at the expense of a very small increment of deterrent that perhaps the Small ICBM would have over Peacekeeper. I am not even convinced of that.

So the $30 billion differential is certainly not worth it and would, in fact, decrease the deterrent posture of our country.

General WELCH. Let me make it clear first, sir, that the Air Force is in favor of the Small ICBM. It was fully funded in the fiscal year 1988 Air Force budget.

What we gain from the Small ICBM over the rail garrison Peacekeeper is that the rail garrison will require a decision to put it on the rails in time of crisis in order to make it survivable if it were to ride out an attack.

A Small ICBM requires no such decision.

Given that decision, both are totally survivable. So the difference between the two is the need to make that decision. It just seemed to us in this budget environment that the difference was not worth what it was going to cost us in conventional forces to pay for the privilege of not having to make that decision.

MX RAIL GARRISON FUNDING REDUCTION

Senator DECONCINI. Yesterday, General, the House Armed Services Committee voted to reduce the MX rail garrison by about $300 million and to add those funds to the $200 million sought by the Small ICBM.

I take it you do not think that is a prudent decision?

General WELCH. For that decision to make any economic sense, we have to commit to the additional $30 billion that it will take to make that additional $300 million provide any capability. So unless there is some projection that the Air Force budget will be increased by $30 billion over that 5-year time period, then that is not an economically sound or an operationally sound decision.

Senator DECONCINI. If you had your druthers, you would have both of these if you had $30 billion?

General WELCH. If we had the $100 billion back, I am not sure that this would be our first—of all the things that we had to cut to take $100 billion out of our future budgets—I am not sure the first one that we would add back would be Small ICBM.

But if we had the budget levels that we were working with in fiscal year 1988, it would be in the Air Force budget.

We also had to cut three fighter wings, and I think that we might add three fighter wings back.

SMALL ICBM KEEP-ALIVE FUNDING

Senator DECONCINI. I am told that the Air Force recommended zero dollars for the 1989 budget, not even the $200 million added by the Secretary of Defense. Is that true?

Secretary ALDRIDGE. That was our original recommendation, that within this budget we could not afford the Small ICBM.

However, the Secretary of Defense, in discussions with Congress, elected to keep a small amount of money in the program so that the next administration could, in fact, make that decision. We would not terminate it. We will keep some of the prime contractors and at least a cadre of people working the problem so that the next administration has that choice of the Small ICBM versus Peacekeeper.

Senator DECONCINI. Mr. Secretary, just so I understand, if you had your druthers you would do both the Small ICBM and——

Secretary ALDRIDGE. Not at this budget level, no, sir.

Senator DECONCINI. No, I mean if you had the money you would do both.

Secretary ALDRIDGE. That is very difficult. How much money am I going to get? It would not be the top priority in the Air Force.

Senator DECONCINI. It would not be, even if you had the dollars?

Secretary ALDRIDGE. No, sir.

SUSTAINABILITY STOCKS

Senator DECONCINI. Thank you.

Mr. Secretary, in testimony before the Senate Defense Appropriation Subcommittee last year, Deputy Secretary Taft stated that, "Since we are generally outnumbered, we emphasize the acquisition of more survivable and technological capable forces and stress the achievement of the high peacetime and weapons systems availability rates, investment in sustainability, resources are required."

In light of this statement, what is the risk associated with the fact that sustainability stocks are not being procured for the new aircraft, such as the F-15E, F-16 C/D and the MC-130s?

Secretary ALDRIDGE. Well, sir, the budget is what we call consisting of pillars of sustainability and readiness and modernization and force structure. All of those have had to come down.

Yes, we are not buying the level of sustainability we would like. Yes, we are not buying the level of readiness we would like nor modernization nor force structure. We have cut across in all those things in what we call a balanced way.

However, if we look across how we actually made those allocations of cuts, 80 percent of the cuts came from the investment accounts, not the readiness accounts. Only about 20 percent of our cuts came from readiness.

So we are trying to emphasize keeping readiness and sustainability up to——

READINESS ACCOUNTS

Senator DECONCINI. What was the percentage of the readiness account versus the other accounts?

Secretary ALDRIDGE. About half. So we have tried to cut across those. We recognize we are having to come down, but we think we have cut in those readiness accounts in a way that is least threatening to our combat capability.

Senator DECONCINI. You think that that is a reasonable sustainability stocks that we will have?

Secretary ALDRIDGE. We would like to have more, sir. Again, we have cut too far, in my opinion, across the board, but within the dollars we have I think we have come as close as we can to maintaining a balanced cut across the Air Force.

A-10 REPLACEMENT

Senator DECONCINI. Numbers are always interesting to work with, Mr. Secretary. The Warsaw Pact currently sustains numerous advantages over the European theater with respect to main battle tanks, artillery helicopters and mobilized combat vehicles.

While the Army will hopefully address this imbalance by providing the Apache helicopter, the Air Force has attempted to counter this threat through the anti-tank platform, the A-10. Apparently the A-10 is no longer in production, and apparently there are no plans for further procurement.

Has the air Force worked with the other services to carefully coordinate a response to this apparent vulnerability for the theater forces?

Secretary ALDRIDGE. Yes, sir, we have. I will let General Welch address the specifics.

General WELCH. I think you are exactly right that the great strength of NATO forces is the quality of our tactical aircraft. The Soviets recognize that, as do our NATO allies.

We are embarked on a program to replace the A-10 with a close air support airplane more suited for the modern environment.

As you know, the A-10 was really designed for a different environment in a different time. It is an extremely capable airplane. We have been very happy with it. It will have uses for years and years to come, but as for providing close air support and battlefield air interdiction in the intense environment in Central Europe, the A-10 simply is not going to be the right airplane for that in a few years.

The Air Force and the Army have completely agreed on a requirement for close air support, the nature of that support, where it has to be performed, and the kind of qualities required to perform that.

We are currently working with the contractors to understand the technology available to provide such an aircraft, and when that comes in later this summer we will decide how to proceed to provide the follow-on close air support aircraft.

Senator DECONCINI. Do the NATO allies have any aircraft that fall into this new category?

General Welch. No, they really do not. The NATO allies tend to concentrate more on what we call battlefield air interdiction; that is, attacking the forces just behind the point of contact, whereas this very close integration of fire power where we provide close fire power to ground forces is uniquely a U.S. Air Force/U.S. Army mode of operation which we have found to be successful over lots and lots of years of combat experience.

A-16

Senator DeConcini. Is it true that there is a disagreement between the Air Force and OSD on what type of aircraft this new or modified aircraft should be?

General Welch. I do not think I would characterize it as a disagreement over the type of aircraft.

The question is open. It is fair to say that the Air Force at the outset preferred a variant of the F-16, something we would call the A-16, because it clearly meets our requirements.

Our OSD friends insist that we investigate wider possibilities. We agree to that, and we are out in the industry to investigate wider possibilities. It is also fair, though, to tell you that the lowest estimate we have seen for the R&D cost of a different airplane other than the A-16 is $3 billion.

You can put a lot of A-16s on the ramp for $3 billion. So it should be clear that there will have to be some very decided advantages to a new airplane before we would embark on a $3 billion expenditure just for R&D.

Senator DeConcini. The F-16, you feel, has the capability, then, without question to do close ground support missions?

General Welch. The Air Force believes that about $500 million worth of R&D will produce a variant of the F-16 that will do the close air support missions very, very well.

Senator DeConcini. You are talking about a new or modified aircraft?

General Welch. A new variant, yes, sir. But it is $.5 billion total R&D cost, some of which will be borne by our allies, as compared to the full cost of developing a new aircraft.

The jury is out. We have not received the information back from contractors, and they may tell us something that will surprise us. So we need to wait and see.

Senator DeConcini. That is due this summer.

General Welch. Due this summer, yes, sir.

Senator DeConcini. Thank you, General Welch.

F-16 RELOCATION IN NATO

Now, Mr. Secretary, I am and have been for some time extremely concerned about base rights agreements, particularly in our European and NATO countries but also in the Philippines.

It seems to me that these bases are in the national security interest of our national allies and provide valuable political and economic benefit to those countries.

Recently in Spain, the United States has been forced to withdraw the 72 F-16s which could seriously impair our NATO capabilities, I am advised.

What is the current state of the negotiations to have these F-16s based in Italy or any other NATO country?

Secretary ALDRIDGE. Those are still ongoing, sir. We are looking at options for NATO basing at this time. Italy is one option. General Kirk and the U.S. Air Force in Europe are looking at other options for basing.

It, unfortunately, will be expensive to move those aircraft, but there have been no final decisions made other than the fact that we will have to remove them from Spain, I believe, over a 3-year period.

We have made no other decisions regarding the actual bed-down of those aircraft.

Senator DECONCINI. Excuse me? Say that again.

Secretary ALDRIDGE. There have been no decisions made as to where those aircraft would be bedded down after they are removed from Spain.

Senator DECONCINI. How serious a problem in your judgment are the consequences to NATO security if, in fact, they are not placed in some other basing mode within NATO?

Secretary ALDRIDGE. Sir, our entire strategy in NATO as well as the world is a forward deployment strategy. We must have aircraft forward deployed at bases in order to have those aircraft come into play very, very early in the conflict.

Anytime we detract from those by moving them, let us say bringing them home, it is going to detract from our deterrent capability as well as our ability to conduct conflict without having then to turn them around and fly them back with all the supplies and personnel and equipment necessary to sustain combat.

So it will detract from our deterrent posture in NATO unless they are deployed there.

Unfortunately, we have to spend the dollars in order to bed them down, and we are looking at the options that will minimize the cost and the time in which we can locate them in Europe, and there are options being studied such as Italy or other places in Europe. We just have not come to the grips as to what is the best solution at this point in time.

NATO FUNDING FOR F-16 RELOCATION

Senator DECONCINI. Is there consideration for NATO assistance in this cost?

Secretary ALDRIDGE. Yes, sir, there is.

Senator DECONCINI. Is that under negotiation?

Secretary ALDRIDGE. Yes, sir, it is. It is part of the plan.

Of course, as you well know, it takes NATO quite a long period of time to come up with the funds. We have a certain period of time we must come out of Spain. Can we get those funds necessary to bed them down in the proper sequence? It is going to be very difficult.

F-16 RELOCATION ALTERNATIVES

Senator DECONCINI. What are other possible basing beside Italy? Is Great Britain one?

Secretary ALDRIDGE. Yes, sir, that is one that is being considered. We are looking at that in lieu of having other aircraft over there.

I do not want to get into too much specifics because all of this is still in a negotiating state. There may be disadvantages to that from the NATO countries' point of view which have not been fully coordinated on at this point.

Senator DECONCINI. It is safe to say there are several alternatives to Italy?

Secretary ALDRIDGE. Yes, sir, there are, very definitely.

Senator DECONCINI. That at least are realistic as far as we are concerned?

Secretary ALDRIDGE. Yes, sir, they are.

WITHDRAWAL OF A-10S FROM EUROPE

Senator DECONCINI. At your February 19, 1988 press conference, Mr. Secretary, you said if the 401st is relocated within Europe, "maybe we can bring some other stuff out of Europe such as the A-10s."

Secretary ALDRIDGE. That was an option that was being considered.

Senator DECONCINI. That is still an option now?

Secretary ALDRIDGE. Yes, sir.

Senator DECONCINI. Is that based on the 401st being able to take over some of the A-10's close support operations?

Secretary ALDRIDGE. That is correct.

Senator DECONCINI. Has that been the case for some time, in your judgment?

Secretary ALDRIDGE. Well, sir, there is, I think, some new thinking going on relative to the lower budget levels and what one can do in the combat environment. All of that has to be traded off with General Galvin to make sure he believes that is an acceptable trade for him, and the NATO allies must agree that that is an acceptable trade.

All of that is still in the discussion state, but it is clearly an option that exists.

Senator DECONCINI. It is an option from your observation?

Secretary ALDRIDGE. Yes, sir, it very clearly is.

Senator DECONCINI. I presume, General Welch, you agree with that?

General WELCH. I am not sure. If the question is is the F-16 a capable close air support airplane——

Senator DECONCINI. Quoting from the Secretary that if the 401st is relocated within Europe, "maybe we can bring some other stuff out of Europe, such as the A-10s."

That means, if I understand it correctly, Mr. Secretary, and I do not want to put words in your mouth, that the 401st could take over what the A-10s are now doing in Europe if they were located in Europe.

Then my next question is why did you not do that a long time before?

General WELCH. There is a difference between options and desirable things that we would like to do. If we move the 401st out of the Southern Region, then that is a fairly dear price to pay no matter where else we put it, because the 401st is the only U.S. combat force permanently stationed in the Southern Region.

So our day-to-day, peacetime presence would virtually disappear from the Southern Region. So that is a price.

Our first priority is to keep the 401st in the southern region for that reason.

Now, if the 401st cannot stay in the Southern Region because we cannot negotiate the needed conditions, then the second option is to have the 401st have those airplanes available to the European theater somewhere else.

If we move those aircraft and displace A–10s, then our assumption is that we will not increase the total size of the fighter forces in Europe for obvious reasons. If they displace A–10s, clearly those F–16s can perform the A–10's close air support mission.

But those F–16s also have a dual nuclear mission which is particularly important in light of the INF agreement, and those F–16s also have a very important air-to-air capability.

So dedicating those airplanes to the A–10 mission is another price. So what I am trying to convey is each of these options becomes less and less desirable but still remain more desirable than just giving up all that capability in Europe.

Secretary ALDRIDGE. Thank you, General Welch, for clearly stating my position.

F-16 RELOCATION TO NATO SOUTHERN REGION

Senator DECONCINI. Mr. Secretary, are other southern flank or southern region NATO countries a possibility, such as Turkey, for the 401st?

Secretary ALDRIDGE. Sir, there are many options that are available. It is just a matter of how much money you want to spend. You could probably find a place to build a complete new base, but that is $500 million worth of infrastructure it would cost you.

We are trying to avoid having those kinds of costs associated with redeployment of the 401st.

But yes, sir, Turkey is an option. Certainly several locations in Italy are options, but they all are very, very expensive for us to do that. We are trying to avoid that high cost whether or not NATO contributes by some percentage of the funding.

Even if NATO did, there would still be a substantial cost increase to us for putting up those facilities that are not covered under the NATO infrastructure funds.

NEGOTIATIONS WITH SPAIN

Senator DECONCINI. Mr. Secretary, just in your own opinion, do you feel that this expulsion or request for the 401st to leave Spain is the beginning of Spain's request for other NATO and particularly U.S.——

Secretary ALDRIDGE. Sir, without getting into the details of the negotiations, which I would prefer not to discuss in open hearing because those are still ongoing with our Spanish allies, there are some disturbing indications that it is a continuous erosion of our position relative to Spain and other areas. We are trying to avoid those kinds of conflicts with the Spanish in the negotiations, but there is not an encouraging sign at this point that other things will be okay in those negotiations.

BASE RIGHTS PAYMENTS

Senator DECONCINI. Is it your opinion that we ought to take a firmer stand with some of our allies who want higher base right payments when these bases are as much or more for their security as they are for ours?

Secretary ALDRIDGE. Sir, it is my personal opinion yes, we should. However, that is a position that goes beyond just the Air Force. It is the Department of Defense and the Department of State that have to negotiate those issues.

I have a personal opinion, and the answer is yes, sir.

STEALTH BOMBER

Senator DECONCINI. So do I.

Mr. Secretary, one other question regarding the Stealth bomber. I realize it is a classified program, but I would like to get a little information on the record.

What is the Air Force position on the pricing irregularities that have plagued that program? Truly, where do you think we are? Is there some optimism that this is really behind us? With new program 3 of the Stealth coming on, the B–2, what are we going to see coming forward on this? Do you have any handle on it?

Secretary ALDRIDGE. Sir, it is very difficult to talk even in generalities in an open hearing such as this.

Let me just say that the program is proceeding with a high degree of expectation and within my position and the Air Force position is proceeding very, very well.

To go into details beyond that, yes, it is a technical development. We would expect there would be difficulties going through technical developments of programs such as this, but there is nothing that we can see that would cause us to have any high degree of concern about the program at this point in time.

Senator DECONCINI. You mean as to the pricing irregularities in particular?

Secretary ALDRIDGE. Yes, sir.

Senator DECONCINI. Can you supply us with the steps you have taken to attempt to minimize those problems you have had before as you go into the B–2 program 3 of the Stealth?

Secretary ALDRIDGE. Yes, sir. I think I would have to do that with a classified statement before the committee, and we will do that.

Senator DECONCINI. Thank you.

[The information follows:]

B–2 BOMBER COSTS

While the B–2 operates under streamlined management procedures, contract pricing and oversight has the same rigorous controls as other similar major Air Force acquisition programs. This includes continuous monitoring by an on-site Air Force Plant Representative Officer [AFPRO], Defense Contract Audit Agency [DCAA], and the General Accounting Office [GAO]. The contracts include all statutory and regulatory remedies available to DoD to pursue pricing problems. Whenever pricing irregularities are noted or alleged, the Air Force immediately notifies the appropriate agencies to investigate the matter. Should any of the allegations be substantiated, the Air Force will take the necessary action to carry the matter to its proper conclusion.

ATB CLASSIFICATION GUIDE

Senator DECONCINI. Mr. Secretary, the staff director here made an excellent suggestion. We on this committee are constantly faced with the problem of dealing with the classified information and, quite frankly, it poses a big problem of selling the constituency sometimes on these expenditures.

On the ATB, I understand that you have gone into some declassifications or at least put together some papers and what have you.

I wonder if you could ask your technical people to put together a paper for this subcommittee of what is classified and what is not, so it would be clear to us what we are able to discuss in the public forum of this advanced weapons systems to justify the expenditures that we are committing to it.

Can you do that?

Secretary ALDRIDGE. Yes, sir. We are taking steps with time to slowly change to release more and more of the information.

There are various degrees of classification for some of the details of the activity, and we will be glad to give you a paper on what those specifics are.

[The information follows:]

ATB CLASSIFICATION GUIDE

FACT SHEET
ON
ADVANCED TECHNOLOGY BOMBER (ATB)

- Northrop is the prime contractor; Boeing, LTV/Vought, and General Electric Aircraft Engine Group are key members of the contractor team.
  - --The ATB design employs low observables, or stealth technology.
  - --In January 1988, the Air Force announced award of a $2 billion contract to Northrop in support of the ATB.
- The ATB has been officially designated as the B-2.
- In 1986, the total estimated cost for R&D and procurement of 132 aircraft was $36.6 billion in FY 81$.
- Initial Operational Capability (IOC) will be in the early 90s.
- The first operational base will be Whiteman AFB, Missouri.
  - -- $89.3 million of military construction was appropriated for FY 88.
  - -- $79.5 million of military construction has been requested for FY 89.
  - -- Cumulative personnel authorizations to support the B-2 at Whiteman AFB are:

FY 89	FY 90	FY 91	FY 92	FY 93+
43	928	1699	2357	2357

- The primary depot facility will be Oklahoma City, Air Logistics Center at Tinker AFB, Oklahoma.
- Performance/Capability
  - -- The aerodynamic design of the B-2 is markedly more efficient (requires far fewer tankers) than its predecessors.
  - -- The B-2 carries a very healthy bomb load, has very good range, and would be a good bomber even if it weren't stealthy.
  - -- The B-2 has both a nuclear and conventional capability. Funding data and procurement/ delivery quantities for the B-2 program for FY 89 and beyond is classified SECRET
- All other B-2 program data remains classified as SPECIAL ACCESS REQUIRED.

B-1B STATUS

Senator DeConcini. General Welch, do you feel that the B-2 Stealth, the program known as program 3, I think, is going to come out different than the B-1B did? Is it going to meet its objectives as you see it today, or are we apt to be faced with opening the garage door and having something similar to what we had with the B-1B when it came out, that it did not do what we thought it was going to do?

What is your response to that, or do you have one?

General Welch. Certainly, I know you do not want a speech on the B-1B, but I cannot let pass any indication that the B-1B does not perform its intended mission. It performs it very well.

Senator DeConcini. Wait a minute. There were a number of problems, and I think you testified before other committees that the B-1B did not meet allof its expectations and, indeed, had to have some corrections made.

Is that not correct?

General Welch. Yes, indeed.

Senator DeConcini. I do not have the dates that that testimony was made, but my recollection is that I read that in the newspaper.

General Welch. The fact is that the B-1B defensive avionics system has been a disappointment. The time it is going to require to develop the B-1B defensive avionics system to the level that we had hoped it would be at IOC is going to be about an additional 2 years.

Senator DeConcini. How much is that disappointment going to cost us?

General Welch. It will be funded within the original program.

Senator DeConcini. How much is that?

General Welch. There is $20.5 billion in the original baseline dollars. So there is no indication that the B-1B for the baseline airplane that we contracted for will cost us any more than we expected.

As I said, let me relate the differences. I know you do not want a B-1B debate here this morning, butI do have to state the B-1B is on alert today and is doing the mission we bought it to do, and it needs those additional improvements to perform its full mission in the future.

But the difference is the B-1B was a time constrained, time compressed, time driven program. At the outset of the ATB program we recognized that there were some very high technical risks associated with all of the new technologies in the ATB program.

Consequently, the decision was that the ATB was going to be a milestone driven program. That does not mean that time is not important. Time is important because if the program does not meet the schedule it costs additional dollars.

Nonetheless, in the case of the ATB because of the recognized technical risks, it is milestone driven. Within the classification of this hearing, I can say the schedule has been adjusted where the technical difficulties required an adjustment in the time that goes with those milestones.

The difference between the B-1 and the ATB is we did not have this intense pressure to meet the schedule. Instead, we have the intense pressure to meet the technical requirements of each milestone.

One of the things that the B–1B program did for us was it gave us the time to do this on the ATB. On the front end of the ATB was a very vigorous risk reduction program. There were specific technologies that we determined required a risk reduction program before we proceeded on with that program.

That took longer than expected, and it cost more than expected. Nonetheless, we stepped up to that. We stepped up to the time, and we stepped up to the dollars required on the front end of that program to be sure that it was an orderly program.

B–1B LESSONS FOR ATB B–2

Senator DECONCINI. Are you saying, General, that notwithstanding your caveat how wonderful the B–1B has performed and even though some of your own statements here, the components have not functioned as an integrated system as well as expected; but notwithstanding your optimism on that, are you saying that we have learned from those problems and that has been translated over to the ATB, in particular the B–2?

General WELCH. Most assuredly, and the most important lesson was not to be so strongly driven by schedule; to be more driven by technical accomplishment at each milestone. That is the most important lesson from the B–1 program.

Senator DECONCINI. That is in place now? You are satisfied as it relates to this?

General WELCH. Yes, very definitely. It receives a great deal of senior leadership attention.

Senator DECONCINI. What is the time schedule on the B–2? Maybe that is classified.

General WELCH. That is classified, yes.

Senator DECONCINI. Fine. Then I would like to know that at the appropriate time.

SUBMITTED QUESTIONS

Mr. Secretary and General Welch, we have a number of other questions but we are getting into almost the noon hour. We will submit them for you.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

QUESTIONS SUBMITTED BY CHAIRMAN STENNIS

SPACE LAUNCH RECOVERY PROGRAM FUNDING

QUESTION: Mr. Secretary, you have estimated that the expanded Space Launch Recovery Program will cost almost six billion dollars more between FY 87 and FY 94 than was projected last year. The revised Fiscal 1989 budget, for example, contains at least $460 million more for space boosters than was projected. Will there be sufficient funds in the next six years of defense budgets--especially in the new FY 90-94 spending plan being developed--to fully fund these programs, even though the Pentagon still has to cut between $175-300 billion from its previous plans to accommodate the budget summit fiscal constraints and the Air Force has to absorb about $100 billion of those reductions?

ANSWER: The Air Force and the DOD will ensure that adequate funds are included in the budget to provide the required launch capability for our national security satellites. While the specific numbers for FY 90 and beyond won't be firm until the budget is submitted to Congress next year, our internal Program Objective Memorandum efforts have given us the opportunity to look at space launch in the context of the overall Air Force program through FY 94. We have had to cut back in virtually every part of the Air Force, and space programs are no exception. In order to pay the costs of the recovery, we have delayed or rescoped many space program improvements we had planned. However, these adjustments are properly reflected in the overall launch strategy that has evolved over the past 30 months.

I must return to the one theme that has been paramount throughout the dialogue on space launch recovery: the question is not one of launch capability, but of on-orbit capability. The satellites that have been delayed and are waiting on the ground today, because of the Shuttle and Titan accidents, are absolutely essential to our national security. The reason for the space launch recovery program is to get these satellites into orbit to do their job. Unless we choose not to launch these satellites, and the ones that will replace them at the end of their mission life, we have no alternative but to acquire sufficient launch capability. The recovery program and our overall space launch strategy are well-balanced against satellite program needs and will provide the best mix of assured access, affordability and capability with the other elements of the national space program and the resources available.

STATUS OF NATIONAL SPACE LAUNCH PLAN

QUESTION: Mr. Secretary, the fiscal 1989 budget request contains several billions of dollars to develop and procure space boosters. What is the status of the overall national space launch plan mandated by this committee in the fiscal 1988 defense appropriations bill, and when will it be delivered to Congress?

ANSWER: The national space launch plan is being prepared by the Office of the Secretary of Defense. The Air Force is working closely with them on this plan and the schedule is to submit it to Congress by June 1988 as required by law.

ADVANCED LAUNCH SYSTEM

QUESTION: Mr. Secretary, the Advanced Launch System (ALS) heavy lift rocket program is key to our efforts to reduce future space launch costs. The Air Force may change the focus of the program away from developing one specific large booster to developing a "family" of heavy lift boosters. What are the reasons for this change, and how does it affect expected program funding in fiscal 1989 through fiscal 1994, compared with previous projections of that funding?

ANSWER: The Air Force interest in a family of ALS vehicles is not in a family of heavy lift boosters but in a family of affordable, responsive launch systems across the spectrum of payload weights and launch rates. Although the near term focus of the program is on technology maturation and preliminary design for a heavy lift system, the technology and operations concepts developed will benefit future generations of smaller systems as well. These vehicles would be acquired and phased in during the late 1990's or early 2000 time frame. In the interim we can spin off applicable ALS technology achievements to our existing launch systems. The expected funding for the next few years is based on the technology and preliminary design for the heavy lift system. As requirements and schedules for modifications and new systems are defined, funding requirements will be identified.

ADVANCED LAUNCH SYSTEM FUNDING AND IOC

QUESTION: Mr. Secretary, last year it was projected that spending just for research and for the new ALS with a 1998 initial operational capability (IOC) would average about $630 million annually between FY 89 and FY 98. Despite Congress reducing the funds in fiscal 1988, we have been informed that spending for ALS will average about $200 million for the next few years, but that the IOC for the system remains 1998. How can a much reduced funding profile in the earlier years of the program still support the same IOC?

ANSWER: Comparison of total program average annual funding levels with early technology funding levels is inappropriate because of the large hump of full scale hardware, testing and facilities costs typical of later full scale development and initial production. The funding level of approximately $200 million per year over the next few years is the amount required to mature the technology for insertion by 1992, in time to support a full scale development schedule for a 1998 IOC. An estimate of the funding profile required for full scale development must wait for completion of the concept definition begun in July 1987.

ADVANCED LAUNCH SYSTEM FUNDING PROFILE

QUESTION: Please provide for the record a spending profile for ALS, including R&D, procurement, and facilities for each year through the year 2000.

ANSWER: A spending profile for ALS to include R&D, procurement, and facilities would presume a baseline for requirements and technical design approach. That is an intended output of our Phase I concept definition contracts. Phase I preliminary estimates should be available in June and will be used to establish requirements, cost and technical baselines for the ALS program at the Defense Acquisition Board Milestone 0/1 review scheduled for this August. Until then, program cost estimates for development and production are necessarily preliminary. Costs for the total program currently defined, for concept definition, preliminary design, technology maturation and concept demonstration/validation, are estimated at:

Fiscal year	1987	1988	1989	1990	1991	1992
($ million)	85	150	200	200	225	250

Included within these figures are AF costs of:

Fiscal year	1987	1988	1989	1990	1991	1992
($ million)	0	0	0	100	100	100

ADVANCED LAUNCH SYSTEM -- INTERIM LAUNCH VEHICLE

QUESTION: Mr. Secretary, Congress mandated by law that the ALS program no longer include development of an "interim" launch vehicle with the capability to lift heavy payloads in the early mid-1990's. The Air Force so far has resisted implementing this mandate through a formal change to the work statements and contracts with the companies participating in the program. When and how will the Air Force formally implement this congressional mandate?

ANSWER: We have not resisted implementing the restriction on an "interim" launch vehicle. We were unable to provide direction to the seven concept definition contractors during the period of stop work imposed by the congressional withhold of ALS funds. Congress released funds on 15 March. The contracting officer provided message direction to the contractors on 17 March to terminate the stop work order and letter direction on 29 March to eliminate the "interim" or transition vehicle.

ALS INTEGRATED TECHNOLOGY PLAN

QUESTION: Mr. Secretary, the Air Force now claims that, based on congressional direction led by this Subcommittee, there no longer is an "interim vehicle" in the ALS program with any launch cost reduction goal of less than a factor of 10 reduction compared with current launch costs. The Subcommittee urged this position to ensure the ALS program would concentrate on reducing launch costs, not on providing an SDI early deployment vehicle. However, a new Air Force chart on the ALS program shows that it includes "SDI vehicle development" between 1990 and 1997, perhaps as contributing to the shuttle and existing rocket booster programs or perhaps a second Air Force chart also describes the ALS program orientation in the "near term" as being "technology maturation" and "heavy lift vehicle design to support Strategic Defense System Deployment Decision (IOC 1998)." (Both charts attached.) Mr. Secretary, the Armed Services Committees last year capped ALS expenditures at $50 million pending receipt of a comprehensive DoD/NASA management plan for ALS. We have received a report of sorts, but many critical issues are in effect, labelled "To Be Determined." In particular, the Authorization Bill specifically required a cost estimate and the NASA and AF funding profiles. The report provided neither. When will you provide that? Mr. Secretary, the ALS Integrated Technology Plan which outlines in detail the specific roles and responsibilities of DoD and NASA in the ALS program was agreed to some time ago by the Air Force, NASA, and the Strategic Defense Initiative Organization. Why has there been a delay in submitting this plan to the Hill as a way to comply partially with the statutory reporting requirement?

ANSWER: In answer to other questions in this hearing, I have provided a cost and funding profile for the portion of the currently defined program scope, i.e., that concept definition, preliminary design, technology maturation and concept demonstration/validation. We expect to be able to provide preliminary cost estimates for the total program by June as a result of the mid-term reviews from our seven concept definition contracts. After the Defense Acquisition Board milestone reviews of the ALS program scheduled for this August, we will be able to provide baseline program costs. In the President's report to Congress on ALS we identified the DOD/NASA funding profile as entirely DOD funding until such time as we identify a unique civil requirement. Although NASA, SDIO and the Air Staff all received advanced briefings on the ALS Integrated Technology Plan it was formally submitted to the Air Staff on March 30, 1988. There has been no intent to delay submitting data from this plan. Indeed, it forms the basis of the program cost profile provided in this testimony.

B-1B DEVELOPMENT AND PRODUCTION PROGRAMS

QUESTION: According to the United States Air Force Report to the 100th Congress (FY 1989) the components of the electronic countermeasures (ECM) system have not functioned as an integrated system as well as expected, but that further development will preserve current survivability. Please outline the development and production programs planned to preserve the current survivability by cost, program element description, and fiscal year. What does the statement "preserve current survivability" mean? Is the B-1B able to effectively carry out its penetration mission? What ECM problems need to be fixed to meet the increasing threat? At what point in time will the B-1B cease to be an effective penetrator?

ANSWER: The United States Air Force is fixing the AN/ALQ-161A electronic countermeasures system through a phased development and retrofit program. The objective of the recovery plan is establishing the baseline ECM capabilities for the B-1B as defined in a threat updated, prime item development (i.e. performance) specification known as the "Global Spec". The achievement of the "Global" performance specification at conclusion of the recovery plan will provide Strategic Air Command with an integrated ECM capability against SAC's "Top Eleven" threats. The remaining ECM challenges the recovery plan addresses are: receiver sensitivity, threat identification, computer resets, consistency of jamming, Tail Warning Function (TWF) false indications and direction finding inaccuracies. The phases of the recovery effort as outlined in the plan submitted to Congress in February 1988 are: Mod 1 which includes a software change and Programmable Read Only Memory (PROM) changes in the Wave Form Generator (WFG) Line Replaceable Unit (LRU); Tail Warning Function which includes installation of the TWF Receiver Processor and correction of deficiencies in the TWF antenna; and Mod 2 which includes software and hardware changes in roughly 26 LRUs in the ALQ-161 system. The costs for the restructured development and retrofit efforts through the Mod 2 configuration are included in the "Global" proposal currently under negotiations at the program office; the "not to exceed" (NTE) value for the new work associated with updating threat and the correction of deficiency retrofit work is $556 Million (NTE). Existing budget authority within the $20.5 billion B-1B baseline will be used to execute the ECM recovery plan through the baseline Mod 2 configuration.

The B-1B is fully integrated into the strategic war plan as our best penetrating bomber. The B-1B has inherent design and performance characteristics (i.e. low radar cross section, high speed, low altitude flight profile, and electronic countermeasures) which make it a very effective penetrator in today's threat environment. Within the context of the Single Integrated Operational Plan (SIOP), the survivability of the B-1B is also maintained through the optimization of tactical route planning and threat suppression. The completion of the

ECM recovery plan will add the final dimension to this already capable system.

The B-1B is, and will continue to be an effective penetrator through the mid-1990's; however, modifications and improvements will eventually become necessary to meet operational requirements in light of evolving threats. As these more advanced threats are deployed in the 1990's, the B-1B's capability to penetrate will degrade. Completion of the Mod 2 development will slow this process and preserve an acceptable level of survivability for a period of time.

B-2 PROGRAM

QUESTION: If the B-1B is the best strategic bomber in the world today, and expected to improve, why is it necessary to proceed with current plans on the B-2 program? Couldn't the B-2 program be delayed 1-3 years and still meet the threat posed? Why is it necessary to have both B-1B and B-2 programs as effective penetrators of Soviet defenses?

ANSWER: The President's decision for near-term deployment of 100 B-1Bs followed by development of the B-2 for an early 1990s Initial Operational Capability (IOC) was based on both redressing a near-term strategic imbalance and providing long-term nuclear deterrence. While both aircraft are designed as long-range, penetrating bombers, each has inherent strengths and time-phased roles complementing the other.

The synergism inherent in the planned two-bomber program places maximum stress on Soviet defenses, now and well into the 21st Century. The B-1B's reduced Radar Cross Section (RCS), high speed, low-level flight and emerging ECM capabilities make it the most effective strategic penetrating bomber in existence today. As the Soviets begin to react defensively to the B-1B threat, the US will deploy the B-2, employing technology unavailable when the B-1B was fielded. Incorporating extensive low-observable technology, the B-2 will negate, to a great extent, the Soviet's heavy investment in surface-to-air missiles and advancements in look-down/shoot-down interceptors. The Soviets will then have to develop different options to simultaneously counter the B-1B and the B-2.

The President's near-term/far-term bomber program is on track and should continue to be supported. Such support will ensure continued, effective bomber penetration of Soviet defenses, threatening their most valued targets well beyond the year 2000.

B-52 RETIREMENT PLAN

QUESTION: If the B-1B is expected to become a cruise missile carrier "once the B-2 enters the inventory, " what are the retirement plans for B-52 program? Can these aircraft be retired 2 for 1, 3 for

1, or 1 for 1 as B-2 aircraft come on line? If no, why not?

ANSWER: The B-1B is being equipped for future cruise missile capability to avoid extensive future expense and modification time. [Deleted.]

Premature retirement of B-52 cruise missile capable aircraft would force the B-1B into a shoot-and-penetrate role earlier than operationally prudent. [Deleted] [deleted]. Additionally, there are no current plans to retire the B-52H.

B-52 COST ANALYSIS

QUESTION: Has a cost effectiveness analysis been performed which supports continuation of B-52G's in a conventional role?

ANSWER: A cost effectiveness analysis examining the continuation of B-52Gs in a conventional role is currently being developed by the RAND Corporation. While the analysis is not yet complete, the preliminary results are very favorable. The final report will be complete at the end of this year.

F-16 PRODUCTION

QUESTION: The Air Force is requesting another multiyear procurement contract for the F-16 aircraft beginning in 1990, with advance procurement requested in the fiscal year 1989 budget, while reducing F-15E purchases from 42 to 36 aircraft. Mr. Secretary, considering the decision to reduce Air Force fighter wings why is it necessary to continue production of F-16 aircraft at 180 planes per year?

ANSWER: The Amended FY 88/89 President's Budget requests a MYP III for 630 aircraft and includes an advance buy request of $588.7 million in FY 89. This advance buy includes an economic order quantity of $132.1 million to support MYP III in years FY 90-93 at annual quantities of 180, 180, 150 and 120 respectively. These F-16s will continue to modernize the multi-role fighter force of both our Active Duty and Reserve Force wings, while allowing for the retirement of aging F-4 aircraft. Additionally, the procurement of new F-16s will permit upgrades in mission areas such as Air Defense and Suppression of Enemy Air Defenses, again replacing older and less capable aircraft. The number and mix of fighters to be procured is evaluated for each budget submittal based upon operational requirements, force structure and fiscal realities. While the number of F-16 aircraft may decrease in the FY 90-93 procurements, the Air Force will continue to sponsor a multi-year procurement for the F-16 in order to benefit from the significant savings of a combined four-year business base. The savings will be large, and the negotiated savings will probably exceed the estimate.

F-16 MULTIYEAR CONTRACT

QUESTION: What are your plans for the next F-16 multi-year contract? Will you still be building 180 planes per year?

ANSWER: The Amended FY 89 Budget contains an F-16 advance buy request to support a Multiyear III procurement of 630 F-16 aircraft in the following profile:

FY 90	FY 91	FY 92	FY 93	Total
180	180	150	120	630

F-16/F-15 PROCUREMENT STRATEGY

QUESTION: Can you tell us why it makes sense to continue buying F-16s at 180 aircraft per year when you can only afford to buy 36 F-15Es per year and the F-15E is a superior aircraft?

ANSWER: We would have preferred to buy both aircraft at the higher procurement rates. However, in this fiscally constrained environment, a number of variables had to be considered in deciding the best mix of aircraft that could be afforded. Some of these variables were the total number of aircraft purchased each year, the impact on the overall force structure, the average age of the force, unit cost, total dollars available, and our existing F-16 multiyear contract. Our decision balanced all these factors to arrive at the mix we have requested for these two highly capable, unique, and effective aircraft.

F-16/F-15 PROCUREMENT COST

QUESTION: How much more would it cost to buy 120 F-16 and 60 F-15E aircraft beginning in fiscal year 1990?

ANSWER: In this fiscally constrained environment, a number of variables have to be considered in deciding the optimum mix of aircraft. Some of these variables are force structure requirements, average age of the force, unit cost, and fiscal constraints. The final decision must balance all these factors to arrive at the best mix of these two aircraft.

Through FY 92, the impact of procuring F-15Es at 60 per year and F-16s at 120 per year would be to procure 60 fewer tactical fighters at an increased cost of $594M, as shown in the table below. Beginning in FY 93, F-16 procurement is already planned for 120 per year, so no cost reduction to offset increased F-15E procurements rates would be available:

	FY 90	FY 91	FY 92	Total
F-15E				
Delta Quantity	(+18)	(+18)	(+18)	(+54)
Delta Cost (TY$M)	+863.2	+720.3	+755.2	+2338.7
F-16				
Delta Quantity	(-60)	(-60)	(-30)	(-150)
Delta Cost (TY$M)	-738.2	-624.3	-382.1	-1744.7
NET				
Delta Quantity	(-42)	(-42)	(-12)	(-96)
Delta Cost (TY$M)	+124.9	+96.0	+373.1	+594.0

When viewed over the total procurement life of the system, however, buying 120 F-16 and 60 F-15E aircraft beginning in fiscal year 1990 would generate a long term net savings of $510.9M. Because the F-15E would be bought at a more efficient rate, the total program cost for 392 F-15Es would be $1842.3M less. The stretch out of the F-16 program at 120 per year would increase its cost by approximately $1331.4M.

F-16/AWACS IMPROVEMENT

QUESTION: Mr. Secretary, your report to the Congress for Fiscal 1989 discusses at least two expensive new initiatives for the tactical air forces--yet another improvement program for the F-16 fighter and a $500 million program to upgrade our airborne warning and control AWACS aircraft. Neither of these programs was projected last year for this year's budget. How do you justify these costly programs during this period of severe fiscal constraints, especially considering the other programs to improve our tactical forces with the Advanced Tactical Fighter and to upgrade our surveillance capabilities with the Air Defense Initiative?

ANSWER: The Amended FY 88/89 President's Budget request for the F-16 continues a planned Multi-national Staged Improvement Program (MSIP) begun in 1981 to facilitate incorporation of advanced subsystems to meet new tactical requirements. We are currently in the third F-16 MSIP phase initiated with the FY 88 procurement of Block 40 F-16C/D aircraft. FY 89 continues procurement of 180 Block 40 aircraft that includes LANTIRN night, under-the-weather, air-to-ground capabilities, AMRAAM beyond-visual range air-to-air capabilities and provisions for the enhanced electronic warfare suite. No new initiatives are included. Funding for planned procurement of 136 Airborne Self-Protection Jammer (ASPJ) production verification unit for 1990 delivery and 18 Increased Performance Engines (IPE) for field service evaluation is included in this year's request for the first time. These systems have long been part of the planned MSIP program. Together, these systems provide essential improvements to the combat capability and effectiveness of the F-16, helping it to complement, but not replace, the unique capabilities and characteristics of the Advanced Tactical Fighter.

The need to upgrade the E-3 Airborne Warning and Control System (AWACS) radar is driven by operational need. The AWACS radar has not been upgraded since the system was fielded in 1977. However, the evolution of faster, more maneuverable, lower radar cross-section aircraft and cruise missile threats has eroded AWACS surveillance capability. That trend is projected to continue. We need to act now to restore the surveillance capabilities of AWACS, our premier tactical command and control platform.

The plan to improve AWACS radar is not new. The Air Force has been studying ways to upgrade the radar for a number of years, and radar improvement program was included in the FY 87 PB request. Those improvements, known as the Improved Radar Data Correlator/Improved Radar Control and Maintenance Console (IRDC/IRCMC) program, were deferred to FY 90 after FY 87 congressional budget cuts. After studying the threat and low cost AWACS alternatives, however, the Air Force decided that the best near-term alternative was to upgrade the existing AWACS radar. The radar improvements originally proposed in the FY 87 PB were restructured into the Radar System Improvement Program (RSIP) with late FY 88 development start.

RSIP will restore E-3 AWACS radar surveillance performance to the required operational capability against current and future threats. It will improve the radar's ECCM performance, reliability and maintainability. RSIP will replace the existing 1970's technology signal processing hardware and software to achieve a significant improvement in radar sensitivity and performance using the existing radar transmitters, receivers and antenna.

The Air Defense Initiative (ADI) does not duplicate the AWACS radar improvement, but rather it is a complementary program. ADI is a technology program for research and development of advanced airborne surveillance and command and control capabilities that will enable us to maintain our technological advantage into the future. We need to fund both the near-term AWACS radar improvements and, under ADI, the development of even more advanced technologies for the long-term.

To meet the near-term threat and start RSIP development in late FY 88 requires a significant increase in our planned FY 89 AWACS funding. By starting now, we can begin fielding RSIP in 1993. The Tactical Air Commanders, CINCNORAD, Theater CINCs, and JCS all strongly support a FY 88 development start. Starting now will also allow us to install the radar improvements at the same time we install the Block 30/35 upgrades currently being developed. This will reduce installation costs, and, more importantly, help keep our limited number of AWACS aircraft out of the modification depot and on the flightline, ready for their worldwide mission.

F-16/AWACS FUNDING PROFILES

QUESTION: Please provide for the record annual funding profiles between FY 89 and FY 94 associated with the F-16 and AWACS upgrade programs, along with specific justification based on the threat to be countered, for each specific major component of both programs.

ANSWER: The FY Amended 88/89 President's Budget request for the F-16 continues the third phase of the planned Multi-national Staged Improvement Program (MSIP). The request includes $3705.1 million for procurement of 180 F-16s and $26.5 million for RDT&E.

The F-16 MSIP program began in 1981 to facilitate incorporation of advanced subsystems to meet new tactical requirements. The third MSIP phase, begun with the FY 88 procurement of Block 40 F-16C/D, incorporates LANTIRN to provide night, under-the-weather, air-to-ground capability; AMRAAM to provide beyond-visual-range, air-to-air capability; and provisions for the enhanced electronic warfare suite including Advanced Self-Protection Jammer (ASPJ). These capabilities significantly enhance the lethality and survivability of the F-16 to engage enemy threats in the 1990s.

The Amended FY 88/89 President's Budget request for AWACS upgrades is $174.8 million RDT&E and $16.4 million Procurement. In the RDT&E category, $55.7 million is for development of Block 30/35 upgrades; $94.4 million is for the Radar System Improvement Program (RSIP); and $24.7 million is for other development efforts, including support of the test system aircraft and government systems engineering, program management and operations. Of the $16.4 million procurement request, $14.6 million is for production of HAVE QUICK A-Net kits.

Block 30/35 includes upgrade of the central computer mass memory and integration of Electronic Support Measures (ESM), JTIDS Class 2H/TADIL J and the Global Positioning System (GPS). Increasing the computer mass memory capacity is central to all of the AWACS upgrades. ESM will provide a passive detection, location and identification capability against airborne, shipborne, and ground-based emitters to augment the radar's capabilities and provide self-protection. ESM is a cooperative development program with NATO, and the system will be integrated into US and NATO E-3s. Incorporation of JTIDS Class 2H/TADIL J will provide secure, jam-resistant communications with the fighter force and ground sites. The GPS system will replace Omega navigation equipment and will provide more accurate position and velocity information in support of command and control. The United Kingdom and French AWACS purchases also include the mass memory upgrade and JTIDS/TADIL J capabilities being developed under Block 30/35.

RSIP will restore AWACS radar surveillance capability to required operational capability against current and future aircraft and cruise missile threats. We need to start development now to keep pace with the evolution of faster, more maneuverable, lower radar cross-section aircraft and cruise missiles. RSIP includes upgrades of the radar processing hardware and software to achieve improved sensitivity and performance from the current radar transmitters, receivers, and antenna. RSIP will also improve radar ECCM performance against jammers, and improve radar reliability, maintainability, and man-machine interfaces.

HAVE QUICK A-Nets will solve a co-site interference problem on AWACS that currently restricts our use of HAVE QUICK jam-resistant radios. A-Nets will allow the simultaneous use of up to eight HAVE QUICK radios.

We are still working the funding levels for the FY 90 to 94 period and those figures are not available. Our internal planning figures are still subject to potentially significant changes, and to provide them to the committee for the record at this time would be premature. FY 90 to 94 funding will be provided in the FY 90/91 President's Biennial Budget.

AC-130U PRODUCTION STATUS

QUESTION: Mr. Secretary, last year the Congress delayed production of the AC-130U special operations gunship because of concurrency. Have you reviewed this program and can you assure the Committee this program is ready for production in fiscal year 1989?

ANSWER: Yes. With the delay of production funding to FY 89 from FY 88, production go-ahead is delayed until three months after critical design review (CDR) vice four months prior to that review. Delivery of the first production C-130H to Rockwell for avionics integration will be delayed until two months after completion of all development and operational testing of the prototype vice prior to start of any operational testing. We believe this totally satisfies last year's congressional direction to proceed with production only after it is clear that the design and testing of the overall system has been fully defined. The R&D program is on schedule and after CDR in January 1989 we will be ready for production start.

AC-130U CONCURRENT DEVELOPMENT AND PRODUCTION

QUESTION: What steps have been taken to reduce the risk of concurrent development and production?

ANSWER: Loss of FY 88 production funding greatly reduced concurrency. With FY 89 vice FY 88 funding, production go ahead is delayed until three months after critical design review vice four months prior to that review. Delivery of the first production C-130H to Rockwell for avionics integration will be delayed until two months after completion of all development and operational testing of the prototype vice prior to start of any operational testing.

AC-130U AVIONICS SYSTEMS

QUESTION: Have all of the avionics and electronic systems been identified?

ANSWER: No. Several major subsystems have been selected such as radar, all-light-level television, mission computer and armament systems. Other selections will be made by Rockwell prior to system preliminary design review (PDR) in June 1988. Government approval of PDR approach and hardware selections will occur at that time.

AC-130U FLIGHT SCHEDULE

QUESTION: When is first flight of the R&D funded prototype scheduled?

ANSWER: First flight of the AC-130U prototype is scheduled for January 1990.

AC-130U -- DEFERRAL OF FUNDING IMPACTS

QUESTION: What would be the impact on unit and total program cost of production if funds were deferred until successful completion of system testing and first flight?

ANSWER: Options were negotiated under competition between Lockheed and Rockwell for two years of production starting either in FY 88 or FY 89. Deferring production funds until successful completion of system testing and first flight in January 1990 would result in a requirement to renegotiate under sole source with an estimated 34% increase in unit and program production cost. The unit cost would increase from $59.5 million to $79.8 million with total production cost increasing from $656.6 million to $877.8 million.

TITAN IV ROCKET MOTORS

QUESTION: There have been recent reports that the Air Force has found flaws in the Titan IV solid rocket motors which will require additional time and money to fix. Mr. Secretary, what is the current status of the Titan IV solid rocket motor. How long will it take to fully investigate and fix this problem?

ANSWER: The Titan IV Solid Rocket Motors (SRM) recently completed two full scale test firings. During the post-test inspection of the second test firing an unusually high area of erosion of the exit cone insulation was discovered. Air Force and contractor personnel who have investigated this situation found nothing that can be categorized as a flaw. During this test, all performance parameters were nominal and this occurrence would not have affected flight success. It does appear though that some minor design changes are necessary in order to prevent a recurrence. These changes have already been identified and will be incorporated into the first flight hardware within a couple of weeks. These minor changes should not impact the October 1988 initial launch capability of the Titan IV. The investigation is ongoing and efforts will continue to ensure we fully understand the anomaly. Completion of this part of the investigation is scheduled for early August 1988.

TITAN IV LAUNCH SCHEDULE

QUESTION: Have any launch schedules slipped? Please identify each slip by payload and projected new launch date.

ANSWER: The Titan IV initial launch capability date of October 1988 has not changed. There have been no impacts to the launch schedule as a result of the Titan IV solid rocket motor anomaly.

TITAN IV COSTS

QUESTION: How much do you estimate it will cost to identify and fix this problem? Will the contractor share in the cost to identify and fix this problem?

ANSWER: The minor design corrections for the Titan IV solid rocket motor (SRM) anomaly have been identified and are being incorporated. We have not estimated the cost for this effort but do not believe it will have a major impact. The SRM developer is a sub-contractor to the prime Titan IV contractor, Martin-Marietta. The prime contract is a fixed-price incentive firm target contract. Therefore, if the cost associated with correcting the SRM anomaly causes the contract to exceed the contract overrun cost, the prime contractor will share in the overrun up to the ceiling price and then assume total responsibility for the costs beyond the ceiling.

TITAN IV SECOND SOURCE

QUESTION: What is the status of the second source for the Titan IV solid rocket motors?

ANSWER: The Solid Rocket Motor Upgrade (SRMU) program began in October 1987 when Hercules, Inc. was chosen as the winner of a competition to build solid rocket motors for the Titan IV. Hercules is a subcontractor to the Titan IV prime contractor, Martin-Marietta. Since October, design and development of the SRMU has been underway. The first major design review, the System Requirements Review, was conducted on 26-27 January 1988. The next two major reviews are the Preliminary Design Review scheduled for October 1988 and the Critical Design Review scheduled for the second quarter of 1989.

No major problems have been discovered; however, the program still has several significant milestones to be accomplished. Major testing will begin this fall and critical loads/structural analysis and tests will continue until 1990. The first flight set is scheduled for launch in the second quarter of 1991.

In summary, the program is proceeding as planned with major programmatic milestones to be accomplished over the next three years.

NATIONAL AEROSPACE PLANE BUDGET

QUESTION: Mr. Secretary, we understand that the Air Force POM had only $150 million for NASP, and that OSD added about $100 million to that. Had you underfunded the program in your budget? Do you think that extra $100 million could be spent more wisely on other Air Force programs?

ANSWER: The National AeroSpace Plane (NASP) program is our largest as well as being our premier Science and Technology program. The Air Force fully realizes the potential future benefits that would be derived from NASP technologies if the program is successful. There are many iterations in the budget formulation process within the Air Force and the Department of Defense and it is only the last number that counts. The Air Force fully supports the FY 89 President's Budget request for the NASP program.

FUTURE BUDGET REDUCTIONS

QUESTION: Mr. Secretary, General Welch has said that another approximately $100 billion including $21 billion in Fiscal 1990 will have to be cut from Air Force programs over the next five years to accommodate fiscal constraints. Will these reductions primarily be accomplished through further force structure reductions or through actual cutbacks or terminations in R&D and procurement programs?

ANSWER: The reductions in fiscal guidance have forced us to make tough decisions and significant reductions in the Air Force Program while maintaining the delicate balance between readiness, sustainability, modernization and force structure. We have cut, in FY 88 and FY 89, approximately $10 billion from the Air Force budget for each of those fiscal years. About 80 percent of those cuts have come from the investment accounts, and only about 20 percent have come from the operation and maintenance accounts. In the outyears, we have made a conscious decision to reduce force structure to maintain a smaller but healthy, well supported force. Major reductions in procurement and R&D programs include slowing or deferring key modernization programs that support the warfighting commanders.

FISCAL PRIORITIES

QUESTION: If you contemplate actual R&D and procurement program reductions and terminations, what priorities will you establish in determining these decisions?

ANSWER: Negative real growth resulting from funding decisions over the past four years has forced us to scale back many programs. Early on in our decisions we vowed not to return to the "hollow" force that prevailed in the late seventies. Accordingly, we developed a balanced framework of principles to guide our reduction decisions. We will sustain programs that support our people, on and off duty. We made a conscious decision to reduce force structure in order to maintain a smaller but healthy, well-supported force. We will continue emphasis on programs like the B-2 and Advanced Tactical Fighter that exploit our strengths and our adversaries' weaknesses.

Guided by these principles, we had to choose between systems originally designed to be complementary. We considered the developmental status of various programs and those experiencing unusual difficulty during their research and development stage were carefully scrutinized for restructuring or cancellation. Emphasizing our competitive strategy, we are providing strong continuing support for the space recovery program and specific development programs such as the B-2, Advanced Tactical Fighter, Joint STARS and the C-17 that will provide revolutionary advances over current systems.

The Air Force balances the need for quality people and quality forces. However, without the stability in programming and budgeting that only Congress can provide, we cannot deliver quality, programmed forces in sufficient quantity at acceptable costs to meet the threat.

FY 89-94 BUDGET PLANNING

QUESTION: Does it make any sense for Congress to decide how much money to appropriate for particular programs in FY 89 if there is a possibility these programs will experience major changes in the fiscal 1990-94 budget plan?

ANSWER: The Air Force goal is to provide, within fiscal constraints, a well-balanced, quality force. Our five year defense plan, developed from the FY 89 Amended Budget is designed to achieve this goal. We look to Congress to help put stability, predictability, and steady growth back into defense budgeting.

BUDGET REDUCTIONS IN NEXT FIVE YEARS

QUESTION: Will it be possible for the Air Force to make the necessary budget reductions in the next five years without significant reductions in force structure, or in R&D and procurement programs?

ANSWER: The reductions in fiscal guidance authority have forced us to make tough decisions and significant reductions in the Air Force Program while maintaining the delicate balance between readiness, sustainability, modernization, and force structure. We have made a conscious decision to reduce force structure to maintain a smaller but healthy, well-supported force. Major reductions in procurement and R&D programs include slowing or deferring key modernization programs that support the warfighting commanders.

PROGRAM TERMINATIONS

QUESTION: Mr. Secretary, you have claimed that the Air Force terminated more than 20 large and small programs to accommodate fiscal constraints, and that these terminations saved more than $3.5 billion in fiscal 1989 and more than $45 billion through the life of these programs. However, based on information available to the committee, at least one of these programs may not be dead, the AGM-130 tactical standoff bomb. A close examination of the programs supposedly terminated by the other services indicates that some simply have been deferred one or two years, or perhaps renamed. Other terminations reportedly already are being reconsidered. How many of the more than 20 Air Force programs you claim have been terminated truly are ended as opposed to deferred, restructured, or renamed?

ANSWER: Of the programs to which I have referred, all have been terminated. However, we left $200M in the Small ICBM program to keep the option to restart open for the next administration.

PROGRAM TRANSFER

QUESTION: In how many cases has the Air Force simply transferred some or all of the funds from the terminated program to another ongoing program, which now will develop essentially similar capabilities to the terminated program?

ANSWER: The Air Force, in order to meet the revised fiscal guidance, used the savings from terminated programs to meet the reduced funding levels.

PROGRAM TERMINATIONS AND ASSOCIATED SAVINGS

QUESTION: Provide for the record a list of the more than 20 terminated programs along with annual breakdowns of the funds saved through the life of each program. Provide a list of those ongoing programs which received funds from the terminated programs, and a list of those programs only deferred, and not really terminated and the funding amounts associated in each specific program.

ANSWER: The following are the 20 major program cancellations and the associated FY 89 savings:

	($M)
ASAT	786
Small ICBM	2,150
Minuteman III Pen Aids	129
C-27 Aircraft	65
AGM-130 Procurement	92

Airborne Command Post Replacement	14
10K Upper Stage for Shuttle	137
GLCM	96
I-S/A AMPE	46
PACOM Regency Net	9
ARM ALARM	12
Commander's Tactical Terminal/TEREC	8
Enemy Situation Correlation Element	4
NATO Air Base Survivability Universal MODEM	39
WWABNCP ADP UPgrade (135s Only)	13
WWABNCP NDS	0
AF Capability Assessment Program	11
Diversity Reception Equipment - RDT&E	1
DSCS EHF Upgrade	0
TRITAC ECCM	4
TOTAL	3,616

FY 89 & BEYOND PROGRAM SAVINGS OVER $45 BILLION:

The lifetime savings are greater than $45 billion for the programs shown and were only a portion of the reductions required under the fiscal downscoping. Monies saved from cancellations were used to offset the new funding levels as opposed to funding other programs.

Major systems deferred include:

B-1B ECM upgrades
Pave Tack for F-111Ds
Have Block
F-15E
Maverick
C-17
Peacekeeper

In building the Amended FY 89 Budget Submission, program composition and direction were held in abeyance pending FY 90-94 Program Objective Memorandum resolution. For this reason, final outyear dollar value impacts are not available at this time.

SMALL ICBM TERMINATION

QUESTION: General Welch, the Air Force recommended termination of the Small ICBM program in fiscal 1989 in favor of continued development of the Peacekeeper/Rail Garrison deployment. What specific reasons were the basis for this recommendation, especially with respect to the comparative cost-effectiveness of both systems?

ANSWER: The Air Force was faced with severe fiscal constraints as a result of the budget summit in December 1987. We had to make hard choices. Given the ability to disperse the Rail Garrison system for survivability, we selected it as the most cost-effective. Peacekeeper Rail Garrison costs $12.7B (FY 89 $), versus a Small ICBM cost of $39.4B (FY 89 $) for the same number of reentry vehicles.

SMALL ICBM FUNDING

QUESTION: General Welch, can you assure us that the $200 million for the Small ICBM added back to the Air Force budget request by the Secretary of Defense is a sufficient amount to keep the key contractor teams and critical subcontractor cadres together, and thus keep the Small ICBM program alive until the next Administration decides its fate?

ANSWER: Yes. There will be some partial cancellations and a delay in the original IOC, but the $200M funding level will retain the essential elements permitting a decision by the next Administration.

PEACEKEEPER RAIL GARRISON FUNDING

QUESTION: General Welch, is the Air Force completely committed to providing full funding in its 1990-94 spending program for the Peacekeeper/Rail Garrison basing mode to maintain the late 1991 initial operational capability (IOC) for the systems?

ANSWER: The Rail Garrison program is one of our top priorities. We will do the best we can to keep the program on track, even in the presently constrained budget environment. It is too early to predict if DOD fiscal guidance will protect a late 1991 IOC or whether the IOC will slip.

PEACEKEEPER RAIL GARRISON/SMALL ICBM FUNDING

QUESTION: General Welch, there has been some discussion about diverting funds from the Peacekeeper/Rail Garrison program to fund more fully the Small ICBM program. Would you strongly oppose such funding reallocations, and why?

ANSWER: Absolutely. While the Air Force historically has fully supported both programs, the existing budget constraints forced us to make difficult decisions on overall priorities. Peacekeeper rail garrison provides a survivable missile system with the most deterrent value at the lowest cost.

SMALL ICBM FUNDING -- PRESS CONFERENCE

QUESTION: Mr. Secretary, you told the press at a February 19, 1988 press conference that you would not be "terribly unhappy if there were no funds for the Small ICBM" in the FY 88 budget. Do you still hold this position, and why?

ANSWER: My remarks pertained to the Amended FY 89 funding for the Small ICBM, not FY 88; but, yes, that remains my position. Due to the severe budget constraints, we believe the amount of military effectiveness gained versus the cost does not justify the program.

HASC REPORT ON MX RAIL GARRISON AND SMALL ICBM

QUESTION: General Welch, the House Armed Services Committee recently issued, along with a subpanel report on both the MX/Rail Garrison and Small ICBM. Their report was less critical of the MX/Rail Garrison but raised several questions about the program. The Committee's ranking minority member took issue with the press release and some of the implications raised by the report. General, what is your response to both the press release, and to the report, especially regarding the specific question raised about the MX/Rail Garrison basing mode? Can you provide for the record, a more detailed and specific response to the press release and the report?

ANSWER: For the record, I am providing a copy of the Air Force press release answering Chairman Aspin's press release (attached). But let me answer some of the specific issues.

Like Mr. Aspin, we agree Small ICBM is well managed and aptly led. The same team is also developing Rail Garrison.

Unlike Mr. Aspin, we feel the Rail Garrison system enhances our chances of getting a START agreement because a credible development effort on our part will convince the Soviets of US resolve.

The Air Force closely looked at the public support issue during the Cuban Missile crisis and the 1973 Mideast war. The public realized the seriousness of the situation and supported its leadership and their decisions to increase our deterrent posture.

We are convinced the Soviet war planner is deterred because he is uncertain of success in an attack on the US and he is certain of a swift, effective US response should he attack. This is one of the lessons of the Scowcroft Commission.

We believe Rail Garrison adds to stability in a crisis. This is true because the missiles are no more threatening when moved from garrison than they are in garrison. Movement is purely defensive. The Soviets are deterred from a bolt-out-of-the-blue by the entire Triad, not just one part of one leg of the triad.

We are confident the rail industry will be there when needed. They have a long history of patriotic support.

(The press release follows:)

"There he goes again." said Air Force Chief of Staff General Larry D. Welch, referring to the latest of Congressman Les Aspin's allegations on the Peacekeeper Rail Garrison program.

Last August, Congressman Aspin voiced great concern about the guidance accuracy of the Peacekeeper missile. Flight test results reported to Mr. Aspin's committee proved that the missile is more accurate than the specification requires.

Last October, he said the B-1 exceeds baseline costs and that there were costs not reported in the baseline. The facts are that the program cost remains within the original estimate and all costs were regularly reported to Congress.

Mr. Aspin's latest press release alleged that the Peacekeeper missile basing mode has the feel of something not well thought out. The facts are that the basing mode has been subjected to a rigorous analytical and careful acquisition process. Selection of the Rail Garrison system followed a series of studies recommended by the 1983 President's Commission on Strategic Forces. After careful study of four basing options, the President approved Rail Garrison for its relatively low cost, low risk, high survivability and extended endurance.

Mr. Aspin declares that the Air Force believes that the American public will support dispersing Peacekeeper missiles on the national rail system when that is needed for increased deterrence. Mr. Aspin is right on that point. He also believes that the Air Force belief is naive. The Air Force says their experience with civilian populations near strategic nuclear forces bases gives them more faith in the American public's interest in deterring nuclear war than that reflected in Mr. Aspin's statement.

General Welch expressed particular concern about the apparent preference for press releases over the proven democratic forum of committee hearings where committee members have the opportunity to discuss these strategic nuclear issues with Air Force leaders. Mr. Aspin has not held posture hearings with the Air Force leadership for the past two years. The Commander in Chief of Strategic Air Command has not been invited to discuss these issues with the House Armed Services Committee since February 1985. Such discussions take place regularly with the other congressional committees with interests in these areas.

Secretary of the Air Force Edward C. "Pete" Aldridge said, "Congressman Aspin has suggested that the Small ICBM is a better program for the US to pursue than the Peacekeeper. That conclusion portrays an extremely narrow view of what is in the best interest of our country. We must pursue programs that deter was across the spectrum of conflict ranging from conventional attacks through nuclear exchanges. If we were to deploy the Small ICBM in lieu of Peacekeeper the cost to the American taxpayer would be an additional $30 billion. The only area where such funds could be found would be from our conventional forces. The net result would be a decrease in our conventional deterrent and a more dangerous defense posture for our country."

Secretary Aldridge also said the press release method of attacking strategic issues is highly inappropriate. It makes far better sense to discuss any Peacekeeper basing mode before the appropriate Congressional committees where facts can be separated from rhetoric.

MX RAIL GARRISON AND SMALL ICBM AFFORDABILITY

QUESTION: The original Small Mobile or Midgetman Missile System called for the deployment of 500 single warhead missiles, each deployed on a mobile carrier. The total estimated cost to complete the operational system is approximately $40.0 billion. Mr Secretary, can this country afford both the rail garrison MX missile system and the Small Mobile system? If we can only afford one system, which system do you support for full deployment?

ANSWER: Today's budgetary realities do not allow the Air Force to carry forward both programs. We had to choose the most capability for the funds available and that's Peacekeeper Rail Garrison.

MIDGETMAN ANNUAL OPERATING COST

QUESTION: What is the current estimated annual operating cost of a 500 missile Midgetman system?

ANSWER: $500 million/year.

SMALL ICBM FUNDING OPTIONS

QUESTION: The Air Force has requested $200 million in Fiscal Year 1989 to keep the Midgetman option alive in order that the next president will have the ability to continue or kill the program. How will the requested monies be used? Is the requested amount sufficient to "keep the option alive?" How would the Air Force spend an additional $100 million above the requested levels? Are additional funds above the requested levels necessary to keep the option alive for the next president?

ANSWER: The $200M requested for FY 89 will be combined with the unspent FY 88 appropriated funds to restructure the Small ICBM program. The new program will focus on flight test planning and hard mobile launcher mobility testing. Every effort will be made to ensure a programmatic basis and contractual structure will exist to expand the program, should the next Administration want to do so.

Any additional funds will be used to do additional testing of sub-system components with an objective of completing design requirements.

No additional funds are required to keep the program alive for a decision by the next administration.

ATB PRICING

QUESTION: Mr. Secretary, there have been allegations of pricing irregularities in the STEALTH (Advanced Technology) Bomber program. What is the Air Force's position on this matter, and can you give us your assurances that the Air Force is vigorously pursuing these allegations to ascertain their substance and, if necessary, to obtain all appropriate remedies?

ANSWER: The Air Force position regarding irregularities in pricing on any program is to vigorously pursue the allegations and take appropriate action. When the Air Force received an anonymous allegation of possible B-2 pricing irregularities at Boeing, the information was immediately transmitted to the Defense Contract Audit Agency (DCAA) representative responsible for the Boeing portion of the B-2 contract. The DCAA is currently auditing these claims and will forward any findings to the Air Force at the completion of their review within the next few weeks. Should any of the allegations be substantiated, the Air Force will take the necessary actions to remedy the situation.

B-1B DEFENSIVE AVIONICS SYSTEMS

QUESTION: Mr. Secretary, the Air Force is continuing an expensive effort to fix the defensive avionics systems of the B-1B bomber, although it has decided to defer further enhancements to those systems to save funds. The Pentagon's Director of Operational Test and Evaluation recently recommended that "serious consideration should be given to the advisability of using other more proven capabilities where available instead of continuing to evolve the present system." How is the Air Force responding to this recommendation and has it done a formal cost and operational effectiveness analysis comparing improvements to the B-1B's defensive systems with installation of other systems, such as those new systems just being added to the B-52s?

ANSWER: The Air Force has evaluated the feasibility of integrating the ALQ-172 on the B-1B. In late 1987, we assessed the feasibility of replacing certain bands of the ALQ-161 with the ALQ-172. This assessment showed that it would cost roughly $2.1B to integrate, manufacture, and install the ALQ-172 system on the entire B-1B fleet and to buy the necessary support equipment. We also estimated it would take at least six years to complete the development and aircraft retrofit. Considering the time and cost involved, the Air Force decided that pursuing the ALQ-172 alternative was not the best approach at that time. In February 1988, the Department of Defense submitted to Congress the electronic counter measures (ECM) recovery plan for the ALQ-161A system. To date, we are encouraged by the results of laboratory testing of the MOD 1/Block 4.0 system. Bimonthly reports to Congress are providing progress reports on achieving ALQ-161 test objectives.

Regarding the issue of enhancements to the baseline Mod 2 ECM system, the Air Force decided that it would be unwise to embark on an ECM enhancement program without knowing the performance capabilities of the baseline system. Since the ALQ-161 is a fully integrated system, the effectiveness of any enhancement is greatly dependent upon the operation of the basic system. Until the basic system is stable, the relative importance and contribution of candidate enhancements cannot be prioritized.

PILOT RETENTION BY COMMAND

QUESTION: Which commands are losing the most pilots?

ANSWER: Pilot retention is tracked using the 6-11 year group, within which most career decisions are made.

The total number of pilot 6-11 year losses during the FY 88/2 12-month reporting period was 782. MAC had the highest number of pilot 6-11 year losses, 245 pilots; and TAC had the second most losses, 209; SAC and ATC followed with 141 and 110, respectively.

Cumulative Continuation Rates (CCR) have been used as a numerical index to reflect pilot retention. Data used to compute the CCR is compiled over a 12-month reporting period. The CCR predicts the percentage of pilots entering their sixth year who would complete the eleventh year, assuming current retention rates continue. The tables presented below portray a bigger picture of retention trends than just using the raw numbers.

PILOT CCR BY MAJCOM

	FY83	84	85	86	87	88/2
ATC	70	61	47	40	37	35
MAC	79	66	49	46	39	38
SAC	76	77	60	55	48	48
TAC	80	73	59	54	43	42
AAC	70	60	67	91	67	51
PACAF	91	86	86	89	80	80
USAFE	88	87	87	72	74	74

*NOTE: Overseas commands may reflect a higher CCR since pilots assigned overseas incur an active duty service commitment equal to their projected return date from the overseas tour.

PILOT CCR BY MAJOR WEAPON SYSTEM

Fighter	80	79	68	63	55	54
Trainer	65	46	36	66	40	32
Bomber	76	79	72	51	59	61
Tanker	76	74	56	50	36	41
Strategic Airlift	73	63	41	41	32	29
Tactical Airlift	82	71	53	52	46	47
Helicopter	82	68	81	82	69	73

HELICOPTER PILOT RETENTION

QUESTION: Why is helicopter pilot retention so high?

ANSWER: Helicopter pilot retention has historically been higher than fixed wing pilot retention. Analysis of survey data and personal interviews reveal that helicopter pilot job satisfaction is very high. Helicopter units tend to be close-knit organizations and take great pride in uniqueness of mission. Challenging flying, strong mission identity, and no comparable civilian job alternative result in high helicopter pilot retention rates. Commercial flying opportunities do exist for some helicopter pilots, but pay scales are generally much lower than for fixed wing pilots. A few airlines will consider helicopter pilots who have at least 500 hours fixed wing experience, but overall the ready career alternative of flying with a major airline does not exist for helicopter pilots.

PILOT PAY

QUESTION: Your solution appears to pay pilots more. How much? Won't this impact the Navy, Marine Corps and Army Aviation? Why aren't bonuses targeted to commands losing pilots?

ANSWER: The Aviator Continuation Pay (ACP) legislative proposal authorizes annual payments of up to $12,000 in exchange for active duty service contracts of up to 8 years for all services. The legislation further provides service secretarial discretion, subject to SecDef approval, to implement the bonus as required to meet the retention needs of the individual services. Currently, only the Air Force and the Navy plan to implement ACP; however, should the Army and Marines ever require the bonus, the legislation permits them to use it as well. The Air Force plans to target the bonus to only its fixed-wing pilots between the 8th and 13th years of service. Currently, the Air Force projects shortages in the retention sensitive year groups (less than 14 years of service) in all its fixed-wing weapons systems by FY 89. Navigator and rotary-winged pilot retention is currently projected to be at or above requirements through the FYDP; therefore, there are no immediate plans to offer the bonus to those officers.

PILOT TRAINING

QUESTION: Please provide data on undergraduate pilot training loads for 1986, 1987, 1988, and 1989 estimates. Provide induction, attrition and graduation figures. What is the maximum training load the current pilot training base can sustain?

ANSWER: The following is a summary of undergraduate pilot training production for active duty USAF, Air National Guard, Air Force Reserve, and international students:

	ENTRIES	ATTRITION	GRADUATES
FY 86	2301	588	1713
FY 87	2109	667	1442
FY 88	2140*	392*	1748*
FY 89	2160*	453*	1707*

* Estimates

NOTE: Does not include T-37 Aviation Leadership Program, Helicopter production, or EURO-NATO Joint Jet Pilot Training.

The maximum number of graduates we could produce each year is 1,825. The production capability of each of the five undergraduate pilot training bases varies, primarily due to weather, from a high of 440 graduates at Williams AFB, AZ to a low of 320 graduates at Reese AFB, TX. Any training load increase would be proportionally divided among the bases.

NUMBER OF AIRCRAFT ASSIGNED TO TACTICAL FIGHTER SQUADRONS

QUESTION: Mr. Secretary, the Air Force budget proposes to reduce 12 Air Guard and Reserve tactical fighter squadrons from 24 to 18 aircraft by the end of fiscal 1991. Part of the Air Force rationale for these reductions is that these squadrons have received more modern aircraft and that the smaller squadrons still are more capable than larger units with older aircraft. Active Air Force squadrons also have been modernized with newer, much more capable aircraft at a continual rate. Why haven't you proposed a similar adjustment in active squadrons to help meet the budget limits?

ANSWER: The most savings are achieved when complete units are inactivated. Therefore, the Air Force plans to inactivate two Active Duty wings, the 474 TFW at Nellis AFB and the 401 TFW at Torrejon AB, Spain.

FY 1990 TACTICAL FIGHTER WING COMPOSITION

QUESTION: General Welch, the Air Force is proposing to reduce its total force to 37 tactical fighter wing equivalents by the end of fiscal 1989, with further reductions through 1990. Specifically, what additional units or modifications are being considered to implement these additional reductions and what will be the overall complement of tactical fighter wing equivalents in the Air Force at the end of 1990?

ANSWER: The Air Force has stated that tactical fighter force structure will be reduced to 35 tactical fighter wing equivalents. The specific units and timing of this planned reduction have yet to be finalized.

FY 1988 OPERATION AND MAINTENANCE EXECUTION RATE

QUESTION: Air Force comptrollers have informed us that much of the Air Force's 1988 operation and maintenance funding problems are because it obligated funds based on an assumption that 1988 appropriations would be higher than the level permitted under the Budget Summit Agreement. The Air Force made this assumption despite the fact that under Gramm-Rudman law, Air Force O&M would have been sequestered to an even lower level ($17.8 billion) than the $19.7 billion appropriated under the summit. Further, OMB apportionment guidance cautioned all Federal agencies against obligating above 1987 levels. Thus, when reductions were required, the Air Force says much of its O&M account already had been obligated, and therefore, little flexibility remained. Thus, it contends there was no choice but to take drastic measures, such as furloughing civilians. Secretary Aldridge, why did the Air Force continue to obligate its fiscal 1988 O&M funding at rates in excess of the 1987 budget, contrary to OMB recommendations, and above the funding levels in the 1988 Congressional Budget Resolution and in the face of the potential of a Gramm-Rudman Sequester?

ANSWER: OMB controls the rate of execution by the apportionment process. OMB provided letter apportionments to the Air Force under both Continuing Resolutions. These apportionments cover obligations and the amounts for administrative reservations which must be made in many cases, e.g., during the contracting process prior to obligation. These apportionments provided $5.8 billion in O&M funding for the 41-day period and $7.4 billion for the 77-day period. The actual utilization of this apportionment (obligations plus administrative reservations) was $4.9 billion at 30 days, $6.5 billion at 60 days, and $7.9 billion at 90 days, exclusive of reimbursements which are automatically apportioned. The apportionment periods did not coincide with end-of-month accounting reports, but it is evident that the Air Force did not exceed OMB apportionment control.

FY 1988 OPERATION AND MAINTENANCE -- SEQUESTER

QUESTION: What would the Air Force have done if the sequester were enacted and its fiscal 1988 O&M budget was even $2 billion lower?

ANSWER: Obviously, the consequences would have been catastrophic to the O&M account. We have seen what $1.7 billion in Congressional reductions and over $0.7 billion in absorptions have done to the O&M account with hard must-pay shortfalls in civilian pay, contractor logistics support, medical programs, real property and depot maintenance. An additional $2 billion reduction to O&M would have devastated our civilian personnel and flying hour programs with significant reductions in readiness and sustainability.

AIR FORCE BUDGET EXECUTION AND REPROGRAMMING AUTHORITY

QUESTION: General Welch, in an interview with the Air Force Times on March 15, 1988, you indicated the Air Force was going to continue this practice of spending at the higher rate and "bet" it will receive the requested reprogramming authority from Congress to permit you to reallocate the needed funds late in the year. Considering the Pentagon's past track record with reallocations which has made Congress reluctant to remove limits on such reprogrammings, isn't the Air Force trying to back Congress into a corner by setting up a situation in which we either give you the additional funds or you stop flying or some other drastic action?

ANSWER: No. I think you are taking the "betting" aspect out of context. I sincerely believe that none of us want to furlough civilians nor curtail flying hours if at all possible. However, if we institute furloughs and flying hour reductions now, before we have worked together to explore reprogramming alternatives, then we may take undesirable actions prematurely. As I stated near the end of the article, "Because what that does is, that says, I give up. I can't solve the problem. I can't count on help from Congress to solve this problem that was created by the cuts in O&M funding, and that I'm going to let all our people suffer at some level for months and months, and that's just not the way to maintain morale and productivity." I have not given up nor do I believe you have. I believe we need to work together soon to resolve this problem, and if reprogrammings are required, I trust you will support the request.

MANAGEMENT OF OPERATION AND MAINTENANCE FUNDS

QUESTION: If the Air Force were better able to manage its O&M funds, couldn't it minimize the impact of any funding limits and still maintain adequate flying, for example, throughout the year?

ANSWER: The reductions by Congress of $1.7 billion and the absorption of more than $700 million of must-pay requirements resulted in negative real growth of over 10.5 percent in FY 88. The Air Force has curtailed many programs to live within the FY 88 appropriation. These reductions and absorptions coupled with the lateness of the FY 88 Continuing Resolution have made FY 88 a difficult year to execute. The Air Force has funding shortfalls in civilian personnel, medical programs, and real property and depot maintenance. Our field commanders are taking many stringent actions to stay within the FY 88 appropriation. Readiness and sustainability have suffered as a result of these actions.

CIVILIAN FURLOUGHS

QUESTION: Mr. Secretary, your statement says that "efficient management of the Air Force civilian and military work force will be especially critical in these times of reduced defense budget." Congress did not require furloughs of critical components of the civilian work force to meet fiscal 1988 budget limits, and neither the Army nor the Navy has found it necessary to furlough civilian workers. Why did the Air Force decide to disrupt its civilian work force through furloughs?

ANSWER: As you know, the reductions by Congress of $1.7 billion and the absorptions of an additional $700 million of "must pay" bills by the Department resulted in negative real growth of over 10.5 percent in the FY 88 O&M account. The Air Force shortfalls are related to far more than just civilian pay. Critical needs also exist in depot maintenance, medical care and foreign currency. We are doing our best to balance all of these high priority requirements and not let any one area suffer unduly. While I can not speak for the Army or the Navy, only two commands in the Air Force have requested and received approval to furlough. The Department is still actively seeking ways to minimize the actual need to exercise that authority.

GROUND COLLISION AVOIDANCE SYSTEM (GCAS)

QUESTION: Why is the Air Force choosing not to install a second generation ground collision avoidance system on all transport aircraft? Which transport aircraft by type and number will not receive a second generation system in the next five years? What is the anticipated cost of completing such modifications for the total Air Force transport fleet?

ANSWER: The Air Force is, in fact, installing a second generation ground collision avoidance system on transport aircraft. There are at least 78 aircraft with the second generation system currently installed: 26 C-5Bs, 13 C-20s, 18 C-23s, and 21 C-135 variants. Program management direction was issued to install second generation systems on 87 C-12s and 79 C-21s, and upgrade 23 C-9s, 5 C-22s and 19 T-43s from first to second generation systems. These actions are presently underway. The upgrade of the C-130 fleet of 636 aircraft and the KC-135 fleet of 638 aircraft is in the planning stage, and modification is scheduled in FY 89. A second generation system is baselined in the C-17. It remains our goal to continue to upgrade existing systems. The 271 C-141s will be upgraded with a second generation equivalent system as a part of an autopilot modification beginning first quarter FY 89. The Air Force is buying second generation systems as preferred spares for the 77 C-5As, and these units will be swapped out on an attrition basis. For the remaining transports with first generation systems installed (57 KC-10s, 7 C/EC-18s, 7 VC-137s and 25 assorted C-135s), there are no firm plans to upgrade due to funding restraints. The anticipated cost for the initial installation and upgrades for the total Air Force transport fleet, including those for which there are no current plans for modification, is estimated to be $67.6M.

B-52 MODIFICATION AND RETIREMENT PLANS

QUESTION: What are the current program plans for modifying B-52G and/or B-52H aircraft to perform conventional roles? Have retirement plans for any B-52 aircraft changed since those articulated in 1987?

ANSWER: Many of the modifications currently planned for the B-52G and B-52H aircraft will enhance their capability to perform in either a nuclear or conventional role. **[Deleted.]** Taken together, these modifications will ensure the warfighting capability of the B-52 force through the 1990s.

The Air Force constantly reviews bomber aircraft force structure decisions in order to react to evolving threats and changes to programs under development. At times, changes in retirement plans, or changes in an aircraft's mission are necessary. Currently, as a result of funding constraints and adjustments to other bomber programs, the Air Force is exploring various force structure options, including retaining some of the ALCM B-52G's longer than currently planned.

B-52 MISSION

QUESTION: What B-52 contribution to theater operations is planned in conjunction with ratification of the INF Treaty?

ANSWER: No B-52 force structure changes are currently planned in conjunction with INF Treaty ratification. However, B-52 force structure and roles are continuously evaluated relative to changing threats and theater commander requirements. **[Deleted]** **[deleted].** The requirement for these long-range conventional aircraft was identified long before the development of the INF Treaty. Other B-52 force structure adjustments may be made in the future to best satisfy changing needs.

ALLOCATION OF F-16AD AIRCRAFT

QUESTION: What units other than Air National Guard will receive F-16AD aircraft? Is this a change from previous plans? If so, why?

ANSWER: The Air Force intends to convert two Active Duty units to the F-16 air defense aircraft. The timing and location of those units is still being finalized, but this position does represent a change from previous plans. Experience has shown that the Active Duty Air Force can provide the best support when it shares both mission and equipage with the Reserve Forces.

TACTICAL PROCUREMENT REQUIREMENT

QUESTION: If the Air Force plans to have 35 Tactical Fighter Wings by 1990, as stated by Secretary Carlucci, assuming 100 aircraft per wing, and an average life of 20 years, is it correct the Air Force needs to buy 175 tactical fighters per year to maintain its fleet? If not, why?

ANSWER: No. To sustain one tactical fighter wing of aircraft, assuming an average aircraft life of 22 years, requires approximately 6 to 6.5 new aircraft per year for aging and peacetime attrition. Therefore, to sustain a 35 tactical fighter wing force and a 3 1/2 wing force of air defense interceptors with an average aircraft life of 22 years, it is necessary to buy 220-240 aircraft per year.

TACTICAL FIGHTER ROADMAP CHANGES

QUESTION: Please describe the planned force structure changes and aircraft retirement schedules which have been altered since the fiscal year 1987 tactical fighter roadmap was formulated.

ANSWER: The 1987 Tactical Fighter Roadmap was formulated with a procurement strategy to meet the threat and provide the required number of fighters to modernize and sustain a 37 tactical fighter wing force and incrementally build to our interim goal of 40 tactical fighter wing equivalents. Due to budget constraints, a conscious decision was made to step back to 35 tactical fighter wing equivalents and ensure a balanced, capable and modern force while accepting the increased risk. This reduction will allow us to accelerate the retirement schedules of our older aircraft and modernize our Guard and Reserve forces at a faster rate.

TACTICAL FIGHTER INVENTORY

QUESTION: By wing or other unit and aircraft type please provide the inventory of tactical fighters as of the submission of the President's budget. Is this the total inventory of tactical fighters? If not please explain and list other assets.

ANSWER: Inventory positions are historical, and the only information available in FY 89 is projected authorizations. The following listings provide inventory data for tactical fighters by unit as of 31 Dec 87. This is the total inventory of tactical fighters.

AIRCRAFT FOR RESERVE FORCES

*0056 TAC TRAINING WING	F016A	1
*0058 TAC TRAINING WING	F016A	1
0089 TAC FIGHTER SQUADRON	F004D	20
0093 TAC FIGHTER SQUADRON	F004D	20
0302 TAC FIGHTER SQUADRON	F016C	21
0302 TAC FIGHTER SQUADRON	F016D	1
0944 TAC FIGHTER GROUP	F016C	4
*0347 TAC FIGHTER WING	F004E	4
0457 TAC FIGHTER SQUADRON	F004D	21
0457 TAC FIGHTER SQUADRON	F004E	10
0465 TAC FIGHTER SQUADRON	F004D	25
0466 TAC FIGHTER SQUADRON	F016A	23
0466 TAC FIGHTER SQUADRON	F016B	1
0704 TAC FIGHTER SQUADRON	F004D	20

AIRCRAFT FOR AIR NATIONAL GUARD

*0033 TAC FIGHTER WING	F015A	1
*0056 TAC TRAINING WING	F016A	2
*0056 TAC TRAINING WING	F016B	2
0108 TAC FIGHTER WING	F004E	21
0113 TAC FIGHTER WING	F004D	26
0116 TAC FIGHTER WING	F015A	21

0116 TAC FIGHTER WING	F015B	2
0120 FIGHTER INTERCEPTOR GROUP	F016A	1
0122 TAC FIGHTER WING	F004E	27
0131 TAC FIGHTER WING	F004E	26
0133 TAC FIGHTER WING	F004E	1
0142 FIGHTER INTERCEPTOR GROUP	F004C	20
0149 TAC FIGHTER GROUP	F016A	19

* Indicates Active Duty Unit with aircraft transfering to Reserve or Guard.

0149 TAC FIGHTER GROUP	F016B	1
0154 COMPOSITE GROUP	F015A	24
0154 COMPOSITE GROUP	F015B	2
0158 TAC FIGHTER GROUP	F016A	18
0158 TAC FIGHTER GROUP	F016B	2
0159 TAC FIGHTER GROUP	F015A	24
0159 TAC FIGHTER GROUP	F015B	2
0162 TAC FIGHTER GROUP	F016A	4
0162 TAC FIGHTER GROUP	F016B	1
0162 TAC FIGHTER TRAINING GROUP	F016A	7
0162 TAC FIGHTER TRAINING GROUP	F016B	8
0163 TAC FIGHTER GROUP	F004E	25
0169 TAC FIGHTER GROUP	F016A	25
0169 TAC FIGHTER GROUP	F016B	1
0181 TAC FIGHTER GROUP	F004C	1
0181 TAC FIGHTER GROUP	F004E	20
0183 TAC FIGHTER GROUP	F004D	26
0184 TAC FIGHTER GROUP	F004D	40
0184 TAC FIGHTER GROUP	F016A	7
0184 TAC FIGHTER GROUP	F016B	3
0187 TAC FIGHTER GROUP	F004D	22
0188 TAC FIGHTER GROUP	F004C	18
*0405 TAC TRAINING WING	F015A	1

AIRCRAFT FOR REGULAR FORCES

0000 AEROSPACE TEST CENTER	F015A	1
0000 AEROSP MAINT-REGEN CENTER	F111D	2
0001 TAC FIGHTER WING	F015C	82
0001 TAC FIGHTER WING	F015D	9
0003 TAC FIGHTER WING	F004E	41
0003 TAC FIGHTER WING	F004G	13
0003 TAC FIGHTER WING	F005E	12
0004 TAC FIGHTER WING	F004E	73
0008 TAC FIGHTER WING	F016A	45
0008 TAC FIGHTER WING	F016B	2
0008 TAC FIGHTER WING	F016C	32
0008 TAC FIGHTER WING	F016D	2
0010 TAC RECONNAISSANCE WING	F005E	17
0018 TAC FIGHTER WING	F015C	73
0018 TAC FIGHTER WING	F015D	7
0020 TAC FIGHTER WING	F111E	76
0021 TAC FIGHTER WING	F015A	1
0021 TAC FIGHTER WING	F015C	12
0027 TAC FIGHTER WING	F111D	73
0031 TAC FIGHTER WING	F004D	24
0031 TAC FIGHTER WING	F016A	47
0031 TAC FIGHTER WING	F016B	4

0032 TAC FIGHTER SQUADRON	F015C	24
0032 TAC FIGHTER SQUADRON	F015D	3
0033 TAC FIGHTER WING	F015A	8
0033 TAC FIGHTER WING	F015C	69
0033 TAC FIGHTER WING	F015D	9
0035 TAC TRAINING WING	F004E	54
0036 TAC FIGHTER WING	F015C	71
0036 TAC FIGHTER WING	F015D	9
0037 TAC FIGHTER WING	F004E	33
0037 TAC FIGHTER WING	F004G	47
0048 TAC FIGHTER WING	F111F	82
0049 TAC FIGHTER WING	F015A	76
0049 TAC FIGHTER WING	F015B	6
0050 TAC FIGHTER WING	F016A	2
0050 TAC FIGHTER WING	F016C	75
0050 TAC FIGHTER WING	F016D	6
0051 TAC FIGHTER WING	F004E	27
0052 TAC FIGHTER WING	F004E	20
0052 TAC FIGHTER WING	F004G	39
0052 TAC FIGHTER WING	F016C	37
0052 TAC FIGHTER WING	F016D	3
0056 TAC TRAINING WING	F016A	62
0056 TAC TRAINING WING	F016B	36
0057 FIGHTER INTERCEPTOR SQUADRON	F015C	18
0057 FIGHTER INTERCEPTOR SQUADRON	F015D	2
0057 FIGHTER WEAPONS WING	F005E	41
0057 FIGHTER WEAPONS WING	F015C	14
0057 FIGHTER WEAPONS WING	F015D	3
0057 FIGHTER WEAPONS WING	F016A	18
0057 FIGHTER WEAPONS WING	F016B	4
0057 FIGHTER WEAPONS WING	F016C	15
0057 FIGHTER WEAPONS WING	F016D	2
0057 FIGHTER WEAPONS WING	F111D	3
0057 FIGHTER WEAPONS WING	F111E	1
0057 FIGHTER WEAPONS WING	F111F	3
0058 TAC TRAINING WING	F016A	26
0058 TAC TRAINING WING	F016B	17
0058 TAC TRAINING WING	F016C	36
0058 TAC TRAINING WING	F016D	24
0086 TAC FIGHTER WING	F016C	48
0086 TAC FIGHTER WING	F016D	2
0325 TAC TRAINING WING	F015A	22
0325 TAC TRAINING WING	F015B	14
0347 TAC FIGHTER WING	F004E	16
0347 TAC FIGHTER WING	F016A	20
0347 TAC FIGHTER WING	F016B	2
0363 TAC FIGHTER WING	F016A	3
0363 TAC FIGHTER WING	F016C	73
0363 TAC FIGHTER WING	F016D	4
0366 TAC FIGHTER WING	F111A	43
0388 TAC FIGHTER WING	F016A	73
0388 TAC FIGHTER WING	F016B	3
0401 TAC FIGHTER WING	F016A	68
0401 TAC FIGHTER WING	F016B	7
0401 TAC FIGHTER WING	F016C	2
0401 TAC FIGHTER WING	F016D	1
0405 TAC TRAINING WING	F005E	14
0405 TAC TRAINING WING	F005F	7
0405 TAC TRAINING WING	F015A	52

0405 TAC TRAINING WING	F015B	15
0405 TAC TRAINING WING	F015D	14
0432 TAC FIGHTER WING	F016A	3
0432 TAC FIGHTER WING	F016C	48
0432 TAC FIGHTER WING	F016D	3
0474 TAC FIGHTER WING	F016A	79
0474 TAC FIGHTER WING	F016B	3
4485 TEST SQUADRON	F004E	9
4485 TEST SQUADRON	F004G	3
4485 TEST SQUADRON	F015A	3
4485 TEST SQUADRON	F015C	4
4485 TEST SQUADRON	F016A	2
4485 TEST SQUADRON	F016C	2

ATTACK AIRCRAFT FOR REGULAR FORCES

0023 TAC FIGHTER WING	A010A	81
0051 TAC FIGHTER WING	A010A	26
0057 FIGHTER WEAPONS WING	A010A	16
0081 TAC FIGHTER WING	A010A	119
0114 TAC FIGHTER GROUP	A007D	1
0162 TAC FIGHTER TRAINING GROUP	A007D	1
0343 TAC FIGHTER WING	A010A	26
0354 TAC FIGHTER WING	A010A	80
0355 TACTICAL TRAINING WING	A010A	75
2724 DETACHMENT	A007D	17
2724 DETACHMENT	A007K	2
4485 TEST SQUADRON	A010A	3

ATTACK AIRCRAFT FOR GUARD FORCES

0103 TAC FIGHTER GROUP	A010A	20
0104 TAC FIGHTER GROUP	A010A	20
0112 TAC FIGHTER GROUP	A007D	19
0112 TAC FIGHTER GROUP	A007K	1
0114 TAC FIGHTER GROUP	A007D	18
0114 TAC FIGHTER GROUP	A007K	1
0121 TAC FIGHTER WING	A007D	24
0127 TAC FIGHTER WING	A007D	23
0127 TAC FIGHTER WING	A007K	1
0128 TAC FIGHTER WING	A010A	20
0132 TAC FIGHTER WING	A007D	30
0138 TAC FIGHTER GROUP	A007D	20
0138 TAC FIGHTER GROUP	A007K	2
0140 TAC FIGHTER WING	A007D	24
0150 TAC FIGHTER GROUP	A007D	35
0150 TAC FIGHTER GROUP	A007K	2
0156 TAC FIGHTER GROUP	A007D	18
0162 TAC FIGHTER GROUP	A007K	1
0162 TAC FIGHTER TRAINING GROUP	A007D	23
0162 TAC FIGHTER TRAINING GROUP	A007K	16
0174 TAC FIGHTER WING	A010A	26
0175 TAC FIGHTER GROUP	A010A	20
0178 TAC FIGHTER GROUP	A007D	18
0178 TAC FIGHTER GROUP	A007K	1
0180 TAC FIGHTER GROUP	A007D	18
0180 TAC FIGHTER GROUP	A007K	1
0185 TAC FIGHTER GROUP	A007D	18
0185 TAC FIGHTER GROUP	A007K	1
0192 TAC FIGHTER GROUP	A007D	24
0192 TAC FIGHTER GROUP	A007K	1

ATTACK AIRCRAFT FOR RESERVE FORCES

0045 TAC FIGHTER SQUADRON	A010A	20
0046 TAC FIGHTER TRAINING SQUADRON	A010A	18
0047 TAC FIGHTER SQUADRON	A010A	19
0303 TAC FIGHTER SQUADRON	A010A	20
0706 TAC FIGHTER SQUADRON	A010A	20

INTERCEPTOR AIRCRAFT FOR THE REGULAR FORCES

0048 FIGHTER INTERCEPTOR SQUADRON	F015A	19
0048 FIGHTER INTERCEPTOR SQUADRON	F015B	2
0318 FIGHTER INTERCEPTOR SQUADRON	F015A	20
0318 FIGHTER INTERCEPTOR SQUADRON	F015B	2
0325 TACTICAL TRAINING WING	F015A	13
0325 TACTICAL TRAINING WING	F015B	2

INTERCEPTOR AIRCRAFT FOR THE GUARD FORCES

0005 FIGHTER INTERCEPTOR SQUADRON	F015A	8
0031 TAC FIGHTER WING	F004D	6
0031 TAC FIGHTER WING	F016A	1
0031 TAC FIGHTER WING	F016B	1
0050 TAC FIGHTER WING	F016A	1
0102 FIGHTER INTERCEPTOR WING	F015A	10
0102 FIGHTER INTERCEPTOR WING	F015B	2
0102 FIGHTER INTERCEPTOR WING	F106A	2
0107 FIGHTER INTERCEPTOR GROUP	F004D	24
0119 FIGHTER INTERCEPTOR GROUP	F004D	25
0120 FIGHTER INTERCEPTOR GROUP	F016A	16
0120 FIGHTER INTERCEPTOR GROUP	F016B	2
0125 FIGHTER INTERCEPTOR GROUP	F016A	18
0125 FIGHTER INTERCEPTOR GROUP	F016B	2
0142 FIGHTER INTERCEPTOR GROUP	F004C	23
0144 FIGHTER INTERCEPTOR WING	F004D	22
0147 FIGHTER INTERCEPTOR GROUP	F004D	23
0148 FIGHTER INTERCEPTOR GROUP	F004D	26
0177 FIGHTER INTERCEPTOR GROUP	F106A	14
0177 FIGHTER INTERCEPTOR GROUP	F106B	2
0191 FIGHTER INTERCEPTOR GROUP	F004D	24

F-4C RETIREMENT

QUESTION: At what age are F-4Cs being retired? What are the savings associated with early retirement? What are the plans for these retired assets?

ANSWER: The last 18 F-4Cs will retire in FY 89 and will have an average age of 22.8 years. While these aircraft will not be retired early, the cost of operating 18 F-16s vice 18 F-4s is approximately $3 million less per year. The F-4C retired aircraft will be placed in storage at the Aircraft Maintenance and Regeneration Center (AMARC), Davis-Monthan AFB AZ.

F-15E IOC AND FOC

QUESTION: The Air Force has reduced the purchase of F-15E aircraft from 42 to 36 aircraft. What does this change do to IOC and FOC of the F-15E?

ANSWER: This change will have no impact on the F-15E IOC of September 1989, as aircraft authorized in earlier years support the F-15E IOC. FOC will slip 2 months based upon the reduction of 6 aircraft in FY 89.

F-15E PROCUREMENT AND FORCE STRUCTURE PLANS

QUESTION: According to the President's amended budget, the Air Force still intends to purchase 392 F-15Es. Is this correct? How many F-15E wings will be established and when?

ANSWER: The Air Force still intends to purchase 392 F-15Es which will equip five Tactical Fighter Wings (TFW). The first operational wing to receive the F-15E is the 4th TFW at Seymour - Jonnson AFB, North Carolina beginning in the second quarter of FY 89. Specific information on the remaining wings to receive the F-15E beyond FY 90 is not yet firm due to uncertain annual procurement quantities as a result of budget reductions.

F-15E PROCUREMENT AND DELIVERY SCHEDULE

QUESTION: How will current F-15E plans reflecting a lower outyear funding stream affect procurement of the F-15E? In what year will all 392 aircraft be delivered? Will F-15E aircraft still be delivering after the ATF begins deliveries?

ANSWER: The lowered outyear funding stream will increase unit costs of F-15Es and delay aircraft availability. We are still reviewing outyear plans in our budget review for the FY 90/91 President's Budget. This review will consider F-15E requirements (including any yearly or total quantity changes) in terms of total funding constraints, INF treaty implications, etc. Under the Amended FY 88/89 President's Budget the last delivery is in the year 2000, which is after initial ATF deliveries.

F-15E PROCUREMENT REQUIREMENT

QUESTION: Why is it necessary to purchase 392 F-15Es if force structure is shrinking, the production rate of the F-15E is being reduced and deliveries will overlap with deployment of the ATF and ATA aircraft?

ANSWER: The F-15E is being developed to fulfill the requirement to conduct night/adverse weather deep-interdiction while retaining air-to-air capability. Given the proposed INF reductions, the deep interdiction role of the F-15E becomes even more important. The F-15E Strike Eagle is the only aircraft capable of destroying targets at longer ranges which today are only reachable by the aging F-111 fleet. We are still reviewing outyear plans in our budget review for the FY 90/91 President's Budget. This review will consider F-15E requirements (including any yearly or total quantity changes) in terms of total funding constraints, the INF treaty implications, overall force structure and deployment of other aircraft such as the ATF and ATA.

F-15E/ATF UNIT COSTS

QUESTION: What is the estimated unit cost of the F-15E compared to the ATF?

ANSWER: The average unit cost for the F-15E in the

Amended FY 88/89 President's Budget is $26.9M (FY 85 base year dollars). This reflects a quantity of 392 aircraft at an average rate of 32 aircraft per year. In comparison, the ATF average unit cost is $35.0M (FY 85 base year dollars). This reflects a quantity of 750 aircraft at an average rate of 72 aircraft per year. At a comparable rate, the F-15E would be $23.5M (FY 85 base year dollars.

F-15 SURVIVABILITY

QUESTION: Considering the stretch-out of the F-15E program, for how many years after total F-15E program deliveries will the aircraft be survivable in Central Europe given expected threat improvements?

ANSWER: The survivability of the F-15E in Central Europe is dependent upon several factors. Key factors are airframe and subsystem improvements. The F-15E airframe has been enhanced to increase survivability in a low altitude combat environment. This has been accomplished by increasing load limitations which provides greater maneuverability. Battle damage tolerance has been increased by the inclusion of a triple redundant flight control system which produces a fail-operate/fail-safe capability. Additional capability is provided by self-sealing fuel tanks. Safety is augmented by an auto fly-up command if a failure occurs in the terrain following flight mode. The airframe upgrade is complemented by the integrated Tactical Electronic Warfare System (TEWS) comprised of the ALR-56C radar warning receiver, ALQ-135 internal countermeasures set, and the ALE-45 countermeasures dispenser. These systems' designs are baselined on expected threat improvements and are to be updated by software as the threat changes and/or becomes more accurately defined. Large scale updates are provided for by pre-planned product improvements. Although we cannot forecast in years how long the F-15E will be survivable after program deliveries cease, airframe improvements and programmable TEWS capability to counter the changing threat will insure an effective system well into the future.

KC-135 REENGINING KIT PROCUREMENT PLANS

QUESTION: Last year the Congress appropriated $766.1 million for KC-135 modifications including funds for 50 reengining kits. What are the Air Force plans to purchase 50 kits? Why was $16.2 million internally reprogrammed from this program. Last year, the Air Force attested that it would support the acquisition of 50 KC-135s if sufficient funds are available. Why then did it not follow congressional guidance in purchasing 50 kits? Why were reenginings deferred instead of other KC-135 modifications if funds were insufficient?

ANSWER: The FY 88 funds provided by Congress for C-135 modifications were intended for KC-135R reengining ($715.8M) and EC-135 modifications ($50.3M).

The $715.8M provided for KC-135R reengining program was sufficient to purchase only 48 modification kits. OSD directed a reprogramming action ($14.1M) from C-135 modifications during the Program Budget Decision Cycle to help fund Special Operations Forces shortfalls. This reduction left enough funding to purchase 47 kits with $2.6M remaining, which was used to pay for other unfunded strategic modifications.

A-7 STRIKEFIGHTER PROCUREMENT PLANS

QUESTION: Last year Congress appropriated $10 million for A-7 Strikefighter procurement. What are the Air Force plans for using those funds? Why hasn't the Air Force requested procurement funds for the A-7 Strikefighter in fiscal year 1989? What are the current plans for A-7 Strikefighters? Has the program schedule been adjusted?

ANSWER: The $10 million in procurement funds appropriated for the A-7 Upgrade will be utilized to procure data and specific configuration engineering analysis and other long-lead activities required to insure timely program initiation once the decision is made to proceed. The Air Force Logistics Command is presently structuring an acquisition strategy to expend the appropriated $10 million. Contract award is expected in July 1988.

The Air Force has not requested procurement funds in FY 89 because it is more prudent to evaluate the A-7F (Strikefighter) after its initial flight tests to validate the expected performance and survivability gains prior to making a production decision. Pending a successful evaluation, and in light of fiscal realities, we will make a production decision and establish appropriate milestones.

GLOBAL POSITIONING SYSTEM PROGRAM RESTRUCTURE

QUESTION: The fiscal year 1989 aircraft modifications budget request shows several program changes in conjunction with GPS. Please explain by program what restructurings have occurred and why. Which systems still have GPS modification in fiscal year 1989? Why haven't these been restructured? Identify the funded programs by aircraft type.

ANSWER: Due to the nominal two-year lead time for production of GPS user equipment, FY 89 funding for GPS aircraft modifications procures equipment to support modification installations scheduled in FY 91. The changes in the GPS portion of the FY 89 aircraft modifications budget result from general, across-the-board, budget reductions and from realignments in priorities of some specific platforms through the formal GPS Air Force integration prioritization process.

Platforms for which FY 89 modification funding has been reduced include the F-16 and the C-130. Platforms for which FY 89 modification funding is unchanged include the TR-1, the F-111 and the B-52. Platforms previously starting in FY 89 which have been delayed include the FB-111, the F-15, the E-3 and the H-1. All have been moved to later years as part of the regular GPS integration and platform prioritization review process which has been formally established by the Air Force.

F-111 AMP PROGRAM

QUESTION: Please explain why the fiscal year 1989 F-111 AMP program has been reduced? Are force structure changes for F-111 aircraft anticipated in 1990? If so, what?

ANSWER: Fiscal year 1989 F-111 AMP funds were reduced due to budget constraints which required a programmed reduction in the F-111 force beginning in FY 90. This reduction occurs in the strategic force FB-111s as these aircraft transfer from Strategic Air Command (SAC) to the tactical force structure as F-111Gs. During this transfer the tactical F-111 force structure will be maintained by replacing older and less capable F-111s with F-111Gs. The reduction in AMP funding was made to reflect the planned needs of the F-111 force following these fiscally driven force structure adjustments.

PAVE TACK

QUESTION: Why was Pave Tack cancelled and what is the impact on the F-111 program?

ANSWER: Pave Tack has been put on hold for the F-111D as a result of an attempt to meet fiscal guidance. The Amended FY 89 President's Budget slipped the initial operating capability one year from previous budgets, and DoD is reviewing whether or not to cancel the program. The modification of the F-111D aircraft to add Pave Tack is one part of the Pacer Strike program. Pacer Strike is a two-part modification program to install a reliable munition capability (Pave Tack) in 42 F-111Ds for guided and unguided munitions and to install improved navigational systems (NAVSTAR Global Positioning System (GPS) and Ring Laser Gyro) in all F-111D and F-111F aircraft. NAVSTAR GPS and Ring Laser Gyro remain on track. Given a cancellation decision, the Air Force will retain the ability to self-employ laser-guided munitions with the 72 F-111Fs already modified with Pave Tack.

HAVE NAP

QUESTION: Why was HAVE NAP modifications added to the B-52 program for fiscal year 1989? Please provide a program summary and schedule for this effort.

ANSWER: This specific effort refers to required aircraft modifications to the B-52G that allows carriage of the HAVE NAP missile. This is in response to an urgent requirement stated by CINCSAC. The Air Force plans to procure 15 modification kits in FY 1989. Authorization can not be given to develop a specific aircraft modification schedule until funding for the effort has been approved. However, using preliminary estimates from the contractor, the effort will take approximately six months to complete (2/3 aircraft per month).

AIRBORNE SELF PROTECTION JAMMER (ASPJ)

QUESTION: What is the current schedule for the ASPJ program? By line, how much funding is included in the fiscal year 1989 Air Force budget request?

ANSWER: The current ASPJ schedule is as follows:

ASPJ DT Flight Testing Complete	April 1988
Navy/Air Force SARC for Production Verification Option	May 1988
ASPJ IOT&E Complete	October 1988
Milestone IIIA, Limited Production Decision	December 1988
F-16 Operational Evaluation Complete	July 1989
Milestone IIIB, Full-Rate Production Decision	September 1989
F-16 Production Incorporation	June 1991

ASPJ funding in the Amended FY 89 Budget request is as follows:

3600 RDT&E (EW Development, PE 0604270F)	$8.0M
3010 Production (F-16 Squadrons, PE 0271330F)	
BP 1000	$324.5M
BP 1100	$13.4M

TANKER TRANSPORT TRAINER SYSTEM

QUESTION: What is the requirement for a new Tanker Transport Trainer? Why was this program not requested in the original fiscal year 1989 budget? What factors have changed which make the program now affordable? What are the outyear program funds which will be required?

ANSWER: As outlined in the Air Force Trainer Masterplan, the Tanker Transport Training System (TTTS) will implement Specialized Undergraduate Pilot Training (SUPT). The requirement for TTTS specifies the acquisition of a commercially available business jet, "missionized" to meet the operational training requirements of the specialized Tanker Transport training track.

Originally, the Air Force planned to begin acquisition of the Tanker Transport Training System in FY 86. Budgetary constraints, however, precluded beginning the program at that time. In January 1987, when the FY 88/89 President's Budget was submitted, the Air Force was in the process of reviewing all future trainer aircraft modification and acquisition programs. The conclusions reached during this review formed the basis for the Masterplan. It concluded that beginning the acquisition of the Tanker Transport Training System in FY 89 was absolutely essential and feasible.

The major factor that has changed since last year's submission is the fact that we are one year closer to numerical insufficiency in airframes to support our pilot training rates. TTTS is necessary now to relieve the pressure on the T-38 fleet. The Masterplan presents a sequential acquisition policy to implement the most affordable and best operational training environment for USAF pilots.

Outyear program funds for TTTS as depicted in the Masterplan follow:

FY 89	14.1 million
FY 90	151.9 million
FY 91	181.0 million
FY 92	311.1 million
FY 93	315.5 million
FY 94	329.6 million
FY 95	205.2 million
Total	1508.5 million

ADVANCED LAUNCH SYSTEM INTEGRATED TECHNOLOGY PLAN

QUESTION: What is the status of the Integrated Technology Plan for the Advanced Launch System (ALS) heavy lift rocket, and when will it be available to Congress?

ANSWER: The ALS program office has completed development of an integrated technology plan and briefed it to NASA, SDIO and the Air Staff. Formal submission of the document to the Air Staff for approval occurred March 30, 1988. After NASA and SDIO approval, we will forward it to Congress through the White House.

ADVANCED LAUNCH SYSTEM COSTS

QUESTION: Secretary Aldridge, the Armed Services Committees last year capped ALS expenditures at $50 million pending receipt of a comprehensive DoD-NASA management plan for ALS. We have received a report but many critical issues, are in effect, labelled "To Be Determined." In particular, the Authorization Bill specifically required a cost estimate and the NASA and AF funding profiles. The report provided neither. When will this information be provided?

ANSWER: A total program cost estimate is an intended output of our Phase I concept definition contracts. Although we had expected to have preliminary information from those studies by April to provide a cost estimate to the Congress, the delay in Congressional release of FY 87 funds until March 15, 1988, delayed that estimate. The estimates should be available in June 1988. We plan to establish requirements, cost and technical baselines for the ALS program at the Defense Acquisition Board Milestone 0/1 review scheduled for this August. Until then, program cost estimates for development and production are necessarily preliminary. The report did identify NASA/DOD cost sharing. All program costs, except for any unique civil requirements yet to be identified, will be funded by the DOD.

ADVANCED LAUNCH SYSTEM FUNDING PROFILE

QUESTION: Provide for the record a new annual funding profile for the ALS program from FY 1987 through initial launch capability in 1998, including all R&D, procurement, and facilities costs -- in FY 89 constant dollars and then-year dollars.

ANSWER: A spending profile for ALS to include R&D, procurement, and facilities would presume a baseline for requirements and technical design approach. Based on the on-going concept definition contracts, we plan to establish requirements, cost and technical baselines for the ALS program at the Defense Acquisition Board Milestone 0/1 review scheduled for this August. Until then, program cost estimates for development and production are necessarily preliminary. Costs for the program currently defined, for concept definition, preliminary design, technology maturation and concept demonstration/validation, are estimated at:

Fiscal year	1987	1988	1989	1990	1991	1992
(TY $ million)	85	150	200	200	225	250
(FY 89 $ million)	92	156	200	195	211	229

NATIONAL AEROSPACE PLANE AND ADVANCED LAUNCH SYSTEM DEVELOPMENT COSTS

QUESTION: Mr. Secretary, the first flight of the National Aerospace Plane is scheduled for 1995; the first flight of the new Advanced Launch System heavy-lift rocket is set for 1996. How are you going to afford both of these very expensive programs to develop lower-cost space launch capabilities at the same time.

ANSWER: With the rapidly growing importance of space to meet national security objectives and with a renewed commitment to civil space-faring endeavors, the question is not can we afford modern launch systems for the twenty-first century, rather it is how can we not afford them.

We learned from the Challenger disaster that the US must maintain assured access to space. Our current strategy is to maintain a mixed fleet of manned and unmanned systems. NASP and ALS are our investment in the future. They will allow us to evolve manned and unmanned space access while reducing the cost associated with launch. The Air Force will be leading both programs, but NASP and ALS represent a national commitment with NASA and other DOD elements as participants and users.

It is important to realize that NASP and ALS do not have the same immediate goals. They have different funding sources within the Air Force, entirely dissimilar timelines and fundamentally different goals and plans to achieve those goals.

ALS is the future for our national space launch capability. There are three objectives of this program: 1) to provide the required launch capability if a decision is made for a Strategic Defense System deployment, 2) develop over the long-term a family of ALS vehicles to meet Air Force and national needs, and 3) transfer the technology to existing launch vehicle systems. Most importantly, ALS would meet cost, flexibility, responsiveness, capacity and assured access goals.

While ALS is an evolutionary program, NASP emphasis is on the development of revolutionary, highly advanced technologies that could be used in future NASP-derived manned vehicles around the year 2000. The goal of the NASP program is to demonstrate technologies which will have a wide range of applications including, but definitely not limited to, future space transportation systems.

NATIONAL AEROSPACE PLANE BUDGET

QUESTION: Mr. Secretary, we understand that the Air Force had recommended to the Secretary of Defense that only $150 million be budgeted for NASP in fiscal 1989, and that his office added about $100 million to that. Why did the Air Force think that $150 million was sufficient for the NASP program in FY 1989? Do you think that the additional $100 million could be spend productively on other, higher priority Air Force programs, and, if so, on which programs and in what amounts?

ANSWER: The National Aerospace Plane (NASP) program is our largest as well as being our premier Science and Technology program. The Air Force fully realizes the potential future benefits that would be derived from NASP technologies if the program is successful. The Air Force fully supports the Amended FY 88/89 President's Budget request for the NASP program.

NATIONAL AEROSPACE PLANE DEVELOPMENT COSTS

QUESTION: Provide for the record the full direct and indirect costs borne by all components of the Defense Department and by NASA, for the NASP program between FY 1986 and the end of the development program -- in both constant FY 89 dollars and then-year dollars -- on an annual basis. Please identify the specific components which comprise both direct and indirect costs to each component of DoD, and to NASA.

ANSWER: The following table provides the requested data:

CONSTANT FY 89 DOLLARS - MILLIONS

	FY86	FY87	FY88	FY89	FY90-92	To Complete
DoD Direct	49	116	186	240	1,282	483
DoD Indirect	0	12	11	11	30	19
NASA Direct	17	65	71	102	308	71
NASA Indirect	33	74	81	82	198	78
Total	99	267	349	435	1,818	651

THEN-YEAR DOLLARS - MILLIONS

	FY86	FY87	FY88	FY89	FY90-92	To Complete
DoD Direct	45	110	183	245	1,395	555
DoD Indirect	0	11	11	11	33	22
NASA Direct	16	62	70	104	331	83
NASA Indirect	30	70	80	84	214	90
Total	91	253	344	444	1,973	750

Notes:

- The cost data above for FY 86-88 represent actual amounts.
- The FY 89 amounts are those shown in the Amended President's Budget request.
- Amounts for FY 90 and beyond represent estimates.
- Direct costs are those associated with program contracted effort, direct costs of technical effort at Air Force, Navy and NASA centers, and program management (travel, security, and administration).
- Indirect costs are those associated with military personnel and institutional support in DoD and with test facilities/computer utilization, operation and support and institutional support in NASA.

QUESTIONS SUBMITTED BY SENATOR HOLLINGS

GOLDWATER-NICHOLS REORGANIZATION ACT

QUESTION: Mr. Secretary, is the Air Force abiding by the spirit and the intent of the Goldwater-Nichols Reorganization Act? Specifically, I understand the GAO has expressed concern that you have eliminated the position of Assistant Secretary for Financial Management and replaced him with a military officer. Are you concerned or should we be concerned about a possible lessening of civilian authority?

ANSWER: As I stated in previous congressional testimony on 28 April 1987, the fact that a military officer is in charge of the Comptroller function does not diminish civilian control. There should be no question as to the civilian control in this situation since the Comptroller reports directly to me.

QUESTIONS SUBMITTED BY SENATOR BYRD

FORCE STRUCTURE CHANGES AND IMPACTS

QUESTION: Secretary of Defense Frank Carlucci stated last month that, as a result of cuts in Air Force funding, the force structure will be reduced by one and a half wings in FY 89. He also noted that, "Additional aircraft in several different reserve squadrons will be cut in FY 1990, leaving us with about 35 tactical fighter wings." The Air Force currently has almost 38 tactical fighter wings. How will the proposed reductions in tactical fighter wings affect the procurement and operating costs of Air Force tactical aviation during the next five years? To what extent do these force reductions in tactical air capabilities reflect revised estimates of international threats and to what extent do they arise from budgetary constraints?

ANSWER: Tactical fighter aircraft procurement is currently under study and has yet to be finalized. Once all planned reductions are complete, the tactical fighter force structure will be 35 tactical fighter wing equivalents, down from the present 38. Once these reductions are complete, annual savings will be nearly $500 million. These reductions were made purely due to budget restraints.

ATF DEVELOPMENT AND PRODUCTION COSTS

QUESTION: The FY 1989 budget requested $702.3 million to continue development of the Air Force's Advanced Tactical Fighter (ATF) and a classified amount for development of the Navy's A-12 Advanced Tactical Aircraft (ATA). In light of our present budget problems, which are likely to continue into the next decade, how can we justify developing a new generation of tactical aircraft? What are the current estimates of the development and production costs of the ATF?

ANSWER: The requirement for the ATF is driven by the threat. The existence of Soviet Airborne Warning and Control Systems (SUAWACS) and rapidly growing numbers of high performance Soviet fighters with look-down, shoot-down (LDSD) capability threaten to deny the present "relative sanctuary" of high-speed, low-altitude tactics. The ATF will be a high-performance, low-observable fighter designed to penetrate high-threat enemy airspace, achieve first-look, first-kill against a numerically-superior LDSD threat, and provide an umbrella of protection to US/NATO AirLand battle forces. The program to develop this capability balances emphasis among performance, survivability, and supportability, as well as affordability. The development program will cost approximately $10.4 billion (FY 85 dollars). The ongoing Demonstration/Validation phase is designed to methodically reduce risk prior to entering full-scale development and to identify those design/capability trade-offs required to meet unit cost goals. We have established a unit flyaway cost goal for the ATF of $35 million (based on FY 85 dollars, a total buy quantity of 750 aircraft, and a full production rate of 72 aircraft per year). The estimated cost of the production phase is $34 billion (FY 85 dollars). This investment is justified because the ATF is vital to our future ability to provide air superiority.

ATF/ATA JOINT SERVICE USE

QUESTION: The ATF is being designed as the successor to the Air Force's F-15 fighter; the ATA will replace the Navy's all-weather A-6 attack plane. The ATA could also serve as the Air Force F-111's successor, and a version of the ATF modified to operate aboard aircraft carriers could be used as the Navy F-14's successor. Congress has authorized funds for these programs on condition that ATF and ATA aircraft be designed for joint-service use. What are the current prospects for Air Force use of Navy's Advanced Tactical Aircraft to replace the F-111? What are the practical problems of developing a carrier-capable version of the ATF?

ANSWER: The Air Force is currently doing detailed design analysis of the Navy ATA. This effort will lead to defining the scope of the effort required to modify the aircraft to meet Air Force specific mission requirements. The modifications necessary to ensure that the ATA meets Air Force air-interdiction requirements will not preclude procurement in the 90s. To this end, we are in the definition phase of our R&D effort. The problems associated with developing a carrier-capable version of the ATF involve considerations for: catapult takeoffs and (shipboard) arrested landings, deck handling, storage and salt water corrosion. These basic considerations encompass a large number of complex design features being evaluated by the ATF contractors for incorporation into the naval variant of the ATF.

CLOSE AIR SUPPORT AIRCRAFT

QUESTION: In addition to air combat by fighter aircraft, the Air Force provides close air support (CAS) for the Army. The current A-10 CAS plane needs to be replaced by more survivable and effective aircraft in the 1990s. Both an upgraded version of the A-7 and an A-16 attack version of the F-16 fighter have been proposed for the CAS mission. What are the relative advantages and disadvantages of the upgraded A-7 versus the proposed A-16 for CAS missions? What would be the cost and schedule implications of developing and producing a new aircraft specifically designed for close air support?

ANSWER: The question of upgrading the A-7 is not part of the present CAS study. It is solely a force modernization issue. Either the A-7 aircraft will be upgraded, or it will be retired from the force by the mid-1990s. It has dated avionics systems and an old technology engine that will become logistically unsupportable by that time. The present A-7 also lacks the high-speed maneuverability that would make it survivable when faced with the 1990's threats.

The A-7 Upgrade and A-16 could be potential near term solutions as complementary aircraft for the modernized attack force. Until the present CAS study is completed (October 1988), it would be inappropriate to discuss cost and schedule implications for producing a new aircraft for CAS and Battlefield Air Interdiction (BAI) missions to support the 1990's AirLand Battle.

SMALL ICBM

QUESTION: In regard to Midgetman, Senators Nunn and Warner and Representative Aspin asked Defense Secretary Carlucci in January 1988 to provide enough funding in FY 88 and FY 89 to preserve for the next President the option to continue the program. He responded, "While I do not believe the Small ICBM program is cost-effective, I understand your desire that the next administration be permitted to review the issue." He requested $200 million for FY 89 to keep that option open. What is the planned Midgetman program for FY 88 - 89 given the severe fiscal constraint? Will the program try to have the first flight test in early 1989, as previously planned? If the next President decides to deploy Midgetman, what would be its earliest deployment under the new program? Why preserve the option of continuing Midgetman when it appears that the cost issue alone will doom it?

ANSWER: The Small ICBM program will continue flight test planning and missile processing leading to two flight tests in CY 89. Further effort to develop Small ICBM components for possible ICBM Modernization enhancements, and development of the common command and control console supporting Minuteman and Peacekeeper will continue. Because of the FY 88 appropriation of $700 million (vice $2.2 billion requested) and the requested $200 million for FY 89, the earliest deployment is estimated to be at least 1995.

MX RAIL GARRISON

QUESTION: In regard to MX, Secretary Carlucci stated in early 1988 he hoped MX would be removed from silos and deployed in the rail garrison mode, and that he planned to use 8 of the 12 MXs requested for FY 89 procurement for rail basing, with rail deployment of MX beginning in late 1991. In congressional testimony of late February, however, he indicated that no missiles from the FY 89 buy will be dedicated to rail basing, and that he would not ask Congress to commit to rail basing until it has examined the program fully. Will the Reagan Administration ask Congress to commit to rail garrison basing during its term? What must be done to modify silo-based MXs for rail basing? Will this apparent change in policy delay rail garrison deployment?

ANSWER: We project that the Peacekeeper missiles based in silos today would be useable in the rail garrison system without flight hardware or flight software modifications. The policy of seeking an FY 90 deployment decision has not changed.

CIVIL RESERVE AIR FLEET (CRAF) PROGRAM

QUESTION: Air Force studies and plans assume that 25 percent of the military cargo airlift requirement during a national emergency will be carried by commercial cargo planes from the Civilian Reserve Air Fleet (CRAF). However, the CRAF program has fallen far short of what is needed because civilian airlines are not willing to modify their wide-bodied cargo planes to carry heavy, outsized military cargo. The modifications (larger doors, heavy duty floors, etc.) add weight to the planes and increase their fuel costs, range, etc. Yet, these modifications are necessary if the planes are to be available on short notice in an emergency. The airlines feel that the added weight of the modifications would put the aircraft at a competitive disadvantage, despite offers by the Air Force to pay all costs associated with the modifications and subsequent operational losses. What does the Air Force plan to do to get the CRAF program on track? One suggestion has been that all new cargo planes be required by law to have the modifications. Another has been to subsidize the modification of a certain number of planes so that the airline would incur no loss. The CRAF program seems like an inexpensive way to build up our airlift capacity and take the load off the active Air Force. Please comment on these suggestions and perceptions of the CRAF program. I'm told that the airlines are in the midst of an expansion program with orders for new cargo aircraft on the rise. Is there a window of opportunity for modifying these planes with the enhanced CRAF features that may soon be lost if nothing is done now?

ANSWER: The Civil Reserve Air Fleet (CRAF) is an organization of U.S. civil air carriers who provide airlift augmentation to the Military Airlift Command (MAC) in time of crisis. The CRAF Enhancement Program adds cargo features to certain civil aircraft to increase the long range cargo airlift augmentation of the CRAF. It is a cost effective source of additional bulk and oversize airlift capability. It was never intended to "carry heavy, outsized military cargo." Both the CRAF and CRAF Enhancement Program will meet their goals for airlift contributions under the Air Force Airlift Master Plan. CRAF cargo capability, including CRAF Enhancement, was forecast to contribute 11.3 million ton-miles per day (MTM/D). When MAC awards its next International Airlift Services Contract (1 May 88), CRAF cargo contribution should reach 12.3 MTM/D. This capability exceeds the required contribution and is a tribute to the work done by DOD and DOT to encourage membership in the CRAF.

The Airlift Master Plan assumes the CRAF Enhancement Program will deliver 2.9 MTM/D. MAC currently has 3.14 MTM/D under contract with 1.94 MTM/D already delivered.

This 1.94 MTM/D was counted in the 12.3 MTM/D mentioned above. As the remaining CRAF Enhancement aircraft are delivered, the total long range cargo capability of the CRAF will continue to grow. In addition, MAC just received responses to a new CRAF Enhancement initiative and is planning to award a contract for more modified aircraft by the end of the fiscal year. Clearly, neither of these civilian airlift augmentation programs have "fallen far short" of their expected contribution.

It is true that many airline officials believe a mandatory CRAF Enhancement Program would put them at a competitive disadvantage. The major business dynamic associated with the current program is down-side risk. Currently the Air Force will pay the additional operating and out-of-service costs associated with incorporation of defense features in these aircraft. This action offsets the carriers costs but offers no real incentive for participation during a period of extreme competition in an era of deregulation. Furthermore, some of the carriers are buying new aircraft for operation in the long range international non-stop markets. The added weight of these features may make these new aircraft ineffective for this market.

The airlines are in the midst of a program to purchase a significant number of new, long range passenger aircraft which might be candidates for CRAF Enhancement. Despite the success of our ongoing CRAF Enhancement Program, very few wide-body passenger aircraft are being built with features needed for conversion to a cargo airlift mission. This problem was addressed in the National Airlift Policy, approved by President Reaqan in June 1987. In response, we are seeking to build a program which promotes the incorporation of national defense features in new commercial aircraft. These features would include appropriate navigation aids and secure communications radios, extended range enhancements, and the incorporation of pallet rails and rollers to handle military cargo. The practicality of such a program for commercial aircraft will depend upon the extent aircraft owners must modify their aircraft over and above their commercial requirements. It is our goal to structure a program that will improve the military utility of all new wide-body aircraft without aggravating the competitive distortions within the airline industry.

The Program Manager for CRAF Enhancement, the Office of the Assistant for Civil Air, HQ MAC/XPW, is now completing a comprehensive effort to combine all these factors and determine a proper and practical direction for the CRAF Enhancement Program.

C-17 AIRCRAFT PROGRAM

QUESTION: Money for the first two C-17 cargo planes was in the FY 88 budget. The Air Force testified last year that two planes were the minimum that would keep the program on schedule and within cost. A total of 210 of the new cargo planes are planned by the Air Force at an estimated cost of about $39.5 billion, with the first squadron operational in 1992. One of the main justifications for selecting the C-17 was that it would be less expensive to operate in the long run than other alternatives. According to reports, the design weight of the C-17 under development is already 10 percent more than originally estimated. Will the aircraft still be cheaper to operate than other planes such as the C-5A? Is the rise in weight an indication that the cost of the program will escalate as the plane gets nearer to production? If the Air Force budget is cut further, will you continue to support the C-17 cargo plane or will combat aircraft programs have higher priority, forcing a cut-back or a stretch out of the program? How would such a slow-down affect the airlift shortfall that was documented by the Air Force several years ago? Are airlift requirements being restudied by the Air Force?

ANSWER: The most recent GAO study comparing airlift alternatives referenced C-17 estimates which in fact were based on the current projected 268,000 pound aircraft--the C-17 is still the most life cycle cost effective solution, with a clear advantage in operating and support costs.

The 31 Dec 87 Selected Acquisition Report (SAR) states the C-17 acquisition cost is at $35.7 billion vs $39.5 billion. This cost is based on an empty aircraft operating weight of 268,000 pounds. This is approximately the same aircraft weight used in the previous two annual C-17 SAR's (Dec 85, Dec 86).

The Air Force is committed to the procurement of the C-17. As you know, we completed an extensive review of our total force requirements and forwarded those to the Congress in our Amended FY 1989 Budget request. We examined the total force modernization issue from every angle in this fiscally constrained environment and are convinced the C-17 is an essential part of the solution.

Any slowdown in the C-17 program will delay the Air Force approaching the 1981 Congressionally Mandated Mobility Study (CMMS) strategic airlift goal of 66 million-ton-miles per day. Without C-17 replacements for the aging C-141 fleet, the current mainstay of strategic airlift, the nation's strategic airlift capability will begin to decline by the end of the 1990s as C-141s reach 45,000 flying hours and are forced to retire.

Airlift requirements are jointly under study by the Services, OJCS, and OSD. OSD published the Worldwide Intratheater Mobility Study (WIMS) on 14 Feb 88 and strongly supported acquisition of the C-17. DOD is also conducting the Revised Intertheater Mobility Study (RIMS). RIMS'goal is to quantify the total strategic mobility requirement, including airlift, and is scheduled to be released later this year.

TACTICAL AIRLIFT

QUESTION: The Lockheed C-130 has been the workhorse for tactical airlift for many years and is rapidly becoming obsolete. In recent years, the Air Force has not included the C-130 in its acquisition budget and new aircraft have been purchased mainly because of Congressional initiatives. Using the larger C-17 seems to be an expensive way to move small loads currently carried by the C-130. It also seems dangerous to expose the C-17 by flying it into fields close to the front lines when smaller less expensive planes could do the job. Does the Air Force have plans to develop an alternative or follow-on to the C-130 tactical cargo plane?

ANSWER: The C-17's larger payload and small crew size (pilot, copilot, and loadmaster) promote better risk management because fewer people and aircraft have to be exposed to threats in the forward area. The C-17 has designed in survivability features not in any other airlift aircraft. The C-17 is more maneuverable than a C-130 with faster ingress and egress capability. Resupplying or employing troops and equipment to a forward area with a C-17 would expose one aircraft and three crewmembers versus four to five C-130s and 20 to 25 crewmembers. In addition, the superior ground maneuverability and combat offload capability minimize exposure time when the aircraft must land in the forward area. The Air Force does not have plans to develop a follow on to the C-130. The Air Force is conducting a study entitled Advanced Transport Technology Mission Analysis (ATTMA). It is a team effort involving government and industry that should identify future theater airlift requirements, as well as technologies that must be developed to meet those requirements.

STRATEGIC BOMBER ROLES

QUESTION: Please provide an up-to-date schedule of the strategic roles planned for each of the strategic bombers, B-52s, B-1Bs, and B-2s, through the rest of this century. If a strategic nuclear conflict were to break out today, which planes would be used for penetrating the Soviet Union, armed with what weapons (nuclear gravity bombs, SRAMs, ALCMs)? General Chain has spoken about converting all the B-52s to conventional roles rather than retiring some of them, at a cost of some $2 billion. How does this suggestion differ from previously existing plans for the B-52 fleet? Will B-1Bs equipped with cruise missiles assume stand-off missions before the B-2 (Stealth) becomes operational?

ANSWER: Through the rest of this century B-52, B-1B, and B-2 aircraft will add important capability in terms of a variety of roles and missions to maximize bomber contribution to the TRIAD. In an effort to maintain a credible deterrent force to face a significantly more stressing Soviet target base (more hardened and more mobile), the Air Force has found it necessary to modernize and maintain an evolving larger bomber force which penetrates, shoots-and-penetrates, and stands-off. The congressionally directed 1985 Air

Force Bomber Study reaffirmed the current plan for Heavy Single Integrated Operational Plan (SIOP) Strategic Bombers through the 1990s. Non-ALCM B-52Gs are being removed from the SIOP on 1 Oct 1988 to become a dedicated conventional force through the late 1990s. [Deleted.] The B-1B is being equipped with cruise missile capability to avoid extensive future expense and modification time. [Deleted.]

If a strategic nuclear conflict were to break out today, the following bomber forces are available for SIOP force employment:

[Deleted.]

The Air Force currently plans to retain some of the non-ALCM B-52Gs for use in a dedicated conventional role. [Deleted].

B-1B ASSESSMENT

QUESTION: We are faced with differing assessments of the B-1B's current status and future capabilities. The GAO and other critics point up deficiencies in the aircraft's avionics systems and its flight testing, among numerous other things, and some have predicted that it will never perform exactly as intended. In response, the Air Force, including the pilots who fly the plane, claims that the B-1B is the greatest bomber in the world -- a claim that, even if true, does not necessarily negate the criticisms. Assuming that the B-1B is the greatest bomber in the world, when, if ever, do you expect all of its systems to work together as intended?

ANSWER: The B-1B is fully capable of performing its intended nuclear mission and is today standing alert as part of the nations's deterrent force. As a result of flight testing and an increasing threat environment over time, certain changes have been identified to enhance flight safety in the training environment and to increase the capability of the B-1B to defeat future threats. Phased modifications to the flight control system to increase low level range capability began in October 1987 and will be complete in June 1990. The Program Office recently authorized low level training at 200 feet. The Air Force expects to begin the last of the major defensive system modifications (known as MOD 2) in the summer of 1989 with the last aircraft completed in the spring of 1992.

B-2

QUESTION: Snippets of information about the B-2 have been released officially, but much discussion is based on leaked or speculative information. Last year, the Congress was told by Secretary Taft that the "veil of secrecy" would be lifted from the program. When will this occur? What is the status of the legal action against Northrop concerning possible defraudment of the

Government in the B-2 program? Is the Air Force participating in information gathering for this case?

ANSWER: The details of the B-2 program are continuously reviewed for potential release of information which would not compromise the technology or security of the program. In fact, since last year, the Air Force has announced the first operational base, the primary depot facility, and a significant amount of information regarding the B-2 manpower and facility requirements for these installations. Additionally, as promised by Secretary Taft, the B-2 target information has been downgraded from Special Access to SECRET, beginning with the Amended FY 88/89 President's Budget.

Regarding the legal action against Northrop, the U.S. Attorney in Los Angeles, California, is conducting an investigation into the allegations; and, the Air Force Office of Special Investigations is assisting the U.S. Attorney's office in the collection of information.

QUESTIONS SUBMITTED BY SENATOR DECONCINI

T-37 SERVICE LIFE EXTENSION PROGRAM

QUESTION: The FY 89 budget request includes $12.7 million for a Service Life Extension Program (SLEP) for the aging fleet of T-37 trainer aircraft. While for the moment I see no reason to oppose the SLEP effort, I am concerned that the cost may be considerably more than present estimates indicate. What contingency plans do you have in the event the SLEP program costs increase significantly?

ANSWER: We do not anticipate any significant changes in program cost for several reasons;

(1) Major kit components have been identified. Kit procurement will be determined by a competitive fixed price contract.

(2) Labor costs are the most expensive factor of this modification. Since USAF personnel will be performing this modification little variation in the rate or manhours (3500 per aircraft) is anticipated.

(3) The production lead time available between now and kit installation offers a degree of flexibility in the unlikely event of a significant cost increase.

Options available to the Air Force in the event of significant cost increases include such actions as: rescoping the entire program, extending modification program length, and redefining Depot Economy Repair Program tasks. However we feel this is a highly unlikely occurrence because of the factors listed above. The Amended FY 89 President's Budget contains $11.0M for the T-37 SLEP.

SR-71

QUESTON: The SR-71 (Blackbird) performs vital reconnaissance flight missions, while this is a classified program, I believe we are allowed to generally discuss the budget request. As I understand, this program has been significantly curtailed. In light of the imperative need to monitor and verify the agreements outlined in the INF treaty which will probably be ratified this spring, is it prudent to cut funding for this SR-71 mission?

ANSWER: The SR-71 program has been curtailed due to the high cost compared to the gain in an era of declining budgets and tough choices. The SR-71 has not currently been identified as a source for INF treaty verification.

REMOTELY PILOTED VEHICLE (RPV)

QUESTION: The new Remotely Piloted Vehicle (RPV) master plan has been, as I understand, agreed to and should be approved shortly by the Office of the Secretary of Defense. One of the primary goals of this master plan, might be to develop unmanned planes for non-lethal missions that would be performed by all the services. What existing or planned aircraft might be replaced by these RPVs? What might be the savings? Are existing RPV programs going to be integrated into this master plan?

ANSWER: A principle of agreement has been signed by the Services' Acquisition Executives and will be forwarded by OSD as an interim response to Congress. The Master Plan is scheduled for completion in May 1988.

RPVs will be used to complement manned aircraft and fill gaps in current detection, collection, targeting and communications. The potential of RPVs has not been demonstrated to date. Given positive results, manned aircraft will still be viewed as the primary systems.

Existing and projected RPV programs will be integrated into the Master Plan.

SUSTAINABILITY STOCKS

QUESTION: In testimony before the Senate Defense Appropriations Subcommittee last year, Deputy Secretary Taft stated that, "since we are generally outnumbered, we emphasize the acquisition of more survivable and technologically capable forces, and stress the achievement of high peacetime and wartime weapon system availability rates... investments in sustainability resources are required." In light of this statement, what is the risk associated with the fact that sustainability stocks are not being procured for new aircraft such as the F-15E, F-16C/D, and the MC-130's? Will the Air Force request sustainability funding for new aircraft next year?

ANSWER: While sharply reduced fiscal guidance produced an amended FY 89 budget with more military risk than we would like, our submission still provides balanced support of national security objectives. For example, the decision to not finance sustainability spares in order to preserve critical readiness accounts was only made possible by the strong warfighting capability FY 82-87 spares funding provided. Despite no FY 89 wartime sustainability dollars, the inventory produced by prior year funding will still enable our tactical forces to fly 80% of wartime sorties in FY 91 (two year leadtime). While this position yields a 12 percent reduction from pre-FY 89 supported sorties, it continues to represent a strong deterrent capability.

Finally, the Air Force views FY 89 as somewhat of an anomaly created by the need to reestablish balance between force structure, modernization, readiness and sustainability after the FY 88 reductions, all within the tight constraints of this nation's deficit reduction effort. With balance restored, our FY 90-94 program currently provides wartime spares for all new aircraft arriving during that period.

A-10 CLOSE AIR SUPPORT

QUESTION: The Warsaw Pact currently sustains numerous advantages over the European theater with respect to main battle tanks, artillery, helicopters, and motorized infantry combat vehicles. While the Army will hopefully address this imbalance by providing Apache helicopters, the Air Force has attempted to counter this threat through the anti-tank platform which has been the A-10. Apparently, the A-10 is no longer in production and apparently there are no plans for further procurement. Has the Air Force worked with the other Services to carefully coordinate a response to this apparent vulnerability for our theater forces? What relative importance does the Air Force place on its antitank role particularly in terms of close combat missions at the front line of attack?

ANSWER: The Air Force works very closely with the Army and, through our Air Force component commanders, with the theater Unified Commanders on the problem of attacking mobile combat targets. This is normally performed within the missions of close air support (CAS) and battlefield air interdiction (BAI). Attacking helicopters, either airborne or on the ground, is defined by joint doctrine as a counter air (CA) mission. The Air Force, as a Service, does not prioritize its tactical air missions. Each mission area is an integral part of the theater air and land campaign as determined by the joint force commander.

The amount of CAS and BAI apportioned to the Army in a theater of operations is determined by the joint force commander, not the Air Force. The distribution of the allocated tactical air assets for CAS is further determined by the land component commander, not the Air Force. Therefore, the Air Force responds to joint warfighting needs. The Air Force has a good CAS and BAI anti-tank capability now, and will possess the capability to respond to theater needs in the future.

F-16 OVERSEAS BASING

QUESTION: I am extremely concerned about base rights agreements, particularly, in our European and NATO countries given the impending INF treaty. It seems to me that these bases are in the national security interests of our NATO allies and provide valuable political and economic benefits. Recently, in Spain, the US has been forced to withdraw 72 F-16's which could seriously impair our NATO capability. What is the current state of the negotiations to have these F-16's based in Italy or another NATO country? If these fighter aircraft are forced to be completely removed from Europe, how serious are the consequences for NATO security and capability?

ANSWER: The 401st Tactical Fighter Wing (TFW) is a key element in the deterrent posture and, ultimately, the defense of NATO's Southern Region. The 401st TFW is the only in-place USAF tactical fighter unit in the Southern Region. If the 401st is removed from Europe, there is a possibility that some other similar unit (likely CONUS based) could be designated to fill the wartime mission. However, a CONUS based unit cannot provide the deterrent value or the responsiveness that the 401st can as a theater assigned unit. Tasking a CONUS unit will also increase tanker and airlift requirements at a critical time. [Deleted].

MX RAIL GARRISON COMPARED TO SMALL ICBM

QUESTION: The Air Force is apparently stressing Peacekeeper deployment in the area of ICBM modernization. Evidently, you favor the development of mobile garrison rail basing and upgrading of the Minuteman force. The funding for the Small ICBM (Midgetman) is provided at a minimum level of $200M which would preserve the option of developing this program to the next administration. In regard to the mobile garrison basing, can you comment upon its advantages in terms of stability, deterrence, reaction needed to deploy, and cost compared to the Midgetman. Should there be a decision to procure the small ICBM, and if the resources have to come in part from other Air Force ICBM modernization programs, which of those other programs would be reduced?

ANSWER: Rail Garrison and Small ICBM are roughly equal in terms of deterrence and stability for an equal number of warheads. Rail Garrison and Small ICBM based on Minuteman facilities both require a decision to disperse to improve survivability. Garrison based missiles can be dispersed based on national need, while the hard mobile launchers can be dispersed at tactical warning. The decision to disperse Rail Garrison should not be difficult since it is not provocative and is completely reversible when the situation prompting the decision changes.

Rail Garrison is one-third the cost of Small ICBM.

If Small ICBM is funded, the resources must come out of our conventional forces or from strategic forces outside the Air Force.

QUESTIONS SUBMITTED BY SENATOR STEVENS

B-1B CAPABILITIES

QUESTION: Compared against the planned capability of the B-1B, how effective are the B-1B aircraft currently deployed?

ANSWER: Since the initial operational capability (IOC) of the B-1B in October 1986, the B-1B has been fully integrated into the Single Integrated Operational Plan (SIOP). The B-1B brings an added dimension to the SIOP penetrating force, flying much faster and lower than the B-52 while possessing the capability of carrying twice the internal payload. There is nothing today that matches the overall capabilities of the B-1B as a strategic penetrator. [Deleted] [deleted]. The B-1B is a complementary addition to the SIOP mission, increasing overall SIOP effectiveness and enhancing the capabilities and contributions of the other legs of the TRIAD.

B-1B ECM SYSTEM

QUESTION: Which counted greatest in the decision to defer planned improvements to the B-1B ECM system -- technical problems or affordability?

ANSWER: Technical difficulties. Until the limits of the AN/ALQ-161A MOD 2 performance capabilities are known, the Air Force has determined it unwise to embark on an enhancement program. Since the ALQ-161 is a fully integrated system, thé effectiveness of any enhancement is greatly dependent upon the operation of the basic system. Until the basic system is stable, the relative importance and contributions of candidate enhancements cannot be prioritized.

B-1B COST GAP

QUESTION: The Air Force promised to bring in the B-1B program at the $20.3 billion cost cap -- is this the program that the Air Force has promised?

ANSWER: The Air Force committed to a B-1B program with a cost cap of $20.5B in base year 1981 dollars. The current program manager's estimate indicates the program will be within 0.5% of the $20.5B estimate at completion. Future funding requests can be anticipated based upon operational requirements to counter the evolving threat.

AIR FORCE INVESTIGATION OF NORTHROP

QUESTION: What is the schedule for the Air Force investigation into the issues raised in the suit by former Northrop employees? When will the Air Force be able to report on the findings of this investigation?

ANSWER: The Air Force investigation continues. It is now under the auspices of the Department of Justice, US attorney, Los Angeles, California. Further inquiries regarding the progress and disposition of this investigation should be referred to that office.

B-52 RETENTION FOR CONVENTIONAL MISSIONS

QUESTION: Recognizing the severe funding constraints facing the Air Force in the near future, do you agree with General Chain's proposal to keep the B-52's in the inventory for conventional missions?

ANSWER: The Air Force strongly supports B-52s for conventional operations. The current world situation has resulted in increased emphasis on our ability to conduct conventional warfare. A conventional force, capable of quickly placing enemy assets at risk anywhere on the globe, can achieve our national objectives over a wide range of conflict levels-delaying the introduction of nuclear weapons. Unlike naval task forces and tactical air power, strategic bombers can project conventional capability worldwide in hours, and this force projection can keep small crises from escalating into larger conflicts. Conventional mission attributes of the B-52 include:

Quick Reaction - Escalation control depends on early application of force. We cannot rely on having adequate warning to preposition our forces.

Global Projection - B-52s, by virtue of their range and payload, provide an untapped ability to conduct large-scale global projection of conventional air power.

Operations from the Continental United States - Recent world events have demonstrated that we cannot depend on access to foreign bases/air space for forward basing of fighter aircraft. The ability to operate from the US has been demonstrated in recent conventional exercises with US allies.

Autonomous Attack - Operations can be conducted more responsively if support from other units/forces is not needed. Autonomous night operations enhance the element of surprise and reduce time at risk.

Tailored Response - The internal volume and weapon/payload flexibility of the B-52 permits a strike mission to be specifically configured to respond to the unique characteristics of a given mission.

The tightening defense budgets make it imperative that maximum utilization of existing resources be considered in meeting the rapidly expanding conventional warfighting requirements of theater commanders. The B-52 represents the best immediate solution to providing worldwide escalation control and flexible air power attack options over the range of conventional missions.

B-52 RETIREMENT--SAVINGS

QUESTION: What would be the annual savings as we began retiring B-52 aircraft in FY 1989?

ANSWER: [Deleted]. However, the savings generated would not offset the loss of deterrent capability to our strategic triad.

AIR FORCE PRIORITIES

QUESTION: Mr. Secretary, can you point to any reference to the Close Air Support (CAS) mission, or development of an A-10 replacement on the list of Air Force priorities covered in your statement?

ANSWER: Modernization of CAS has been central to the Tactical Fighter Roadmap since 1985 when the CAS-X was proposed by the Air Force but disapproved by OSD. Thus in 1986, the Air Force proposed modernizing its CAS force with the A-16 and the A-7 upgrade. While A-7+ prototyping was approved by OSD, a decision on our A-16 proposal was postponed until the OSD-directed study was completed as explained in General Welch's testimony.

The primary reason funding for a follow-on to the A-10 does not appear in my FY 89 Report to Congress is because the Air Force has been prohibited from spending funds to develop and field its preference, the A-16, pending completion and review of the OSD-directed study of follow-on CAS options.

A-10 REPLACEMENT ALTERNATIVES

QUESTION: What alternatives are under consideration to replace the A-10 in the CAS mission?

ANSWER: From previous studies and reports on the CAS issue, the alternatives are rather straightforward: a) We can retain the A-10 or a modified A-10, b) We can modify the F-16 into the A-16 as explained previously, c) We could procure the AV-8B, d) We could develop and procure a totally new attack aircraft, or e) We could do nothing and replace A-10s with unmodified, but fully trained and designated, F-16 units in the mid-to-late 1990s. The Air Force has solicited industry proposals for systems to fill operational requirements for this important mission. Our final recommendation will be submitted to Congress by 1 Oct 88 with the CAS/BAI Master Plan.

CLOSE AIR SUPPORT

QUESTION: Doesn't this omission of any reference to the CAS mission substantiate the claim that CAS is the "lost step-child" of the Air Force?

ANSWER: No. As explained in testimony earlier, the FY 89 Report to Congress includes no new R&D funding for CAS because of OSD actions. Do not be misled by R&D accounts only. The Air Force has historically, and will in the future, devote a significant share of its munitions, manpower and tactical force structure to CAS. The Air Force dedicates a far bigger share of tactical air power to CAS than to air superiority or long-range interdiction.

AV-8B IN CAS ROLE

QUESTION: Recognizing the success of the Marine Corps in employing the AV-8B in the CAS role, will the Air Force consider this aircraft as an A-10 successor?

ANSWER: Yes, but there is not much new to be learned. The AV-8B was initially considered by the Air Force in 1979, and again in 1985 when the AV-8B was submitted in response to the Air Force's Request for Information for CAS-X.

The Harrier clearly meets Marine requirements essential for a rapid buildup ashore because of its ship-to-shore VTOL capability. However, it must offset its capabilities with some performance limitations in terms of range and payload that can be significant in a mature theater of operations. This tradeoff assumes short versus vertical takeoffs, and is especially telling over a protracted period.

AV-8B costs would be similar to the F-16 if procured in quantity; however, the AV-8B does not have a radar or commonality with Air Force support systems. Procuring it and its associated logistics tail would not offset the marginal operational V/STOL gains for the Air Force, vice procuring an in-production fighter capable of performing the CAS mission in the 1990s.

If the Air Force procures AV-8Bs and attempts to operate from austere locations, we would need to transport munitions, POL and supplies. Such dispersal would have to be protected en route, and the whole operation would have to be commanded and controlled to respond to a theater commander, not a local air-ground commander. Unique ammunition loaders and support equipment would be needed. Ground vehicles and support personnel requirements would increase 15 to 100 percent depending on the distances involved. These requirements would severely impact the airlift deployability of AV-8B equipped units, because we do not have the advantage of dedicated sea transportation like the Marines.

The Harrier's flight characteristics provide no advantage in performing the theater CAS mission unless we completely disperse our operations. The Air Force sees no requirement or leverage in doing this, especially given current fiscal realities.

A-10 CONVERSION TO F-16

QUESTION: Does the conversion of the Air Guard 138th Tactical Fighter Squadron from the A-10 to the F-16 "jump the gun" in making the replacement decision for the A-10 to the F-16?

ANSWER: No. The conversion of the 138th Tactical Fighter Squadron from the A-10 to the F-16 is part of the modernization of our reserve forces, replacing older model F-4s and A-10s with the more capable F-16. The replacement for the A-10 close air support aircraft is a separate issue. The Close Air Support Mission Area Group (CASMARG), established by Deputy Secretary Taft in 1986, is studying close air support alternatives to the A-10. The results of this study are expected this spring.

CBO ESTIMATE OF B-52 RETIREMENT SAVINGS

QUESTION: Do you concur with the CBO estimate that if the Air Force pursued an aggressive B-52G retirement programs up to $4 billion could be saved in the next 4 years?

ANSWER: No. The only way to attain the CBO $4B estimate is to retire all B-52s (152 B-52Gs and 96 B-52Hs) in FY 90.

[Deleted].

B-52 LIFE EXTENSION PROGRAM

QUESTION: Why, in the constrained budget environment, has the Air Force decided to embark on an expensive "life-extension" program for the B-52G force?

ANSWER: The congressionally directed 1985 Air Force Bomber Study reaffirmed plans for B-52 forces. The B-52, B-1B and B-2 each add important capabilities in terms of a variety of roles and missions to maximize the bomber contribution to the Triad. **[Deleted]** **[deleted]**. In addition, the current world situation has resulted in increased emphasis on our ability to conduct conventional warfare. The US must be able to respond over a wide range of conflict levels to prevent further escalation and delay the introduction of nuclear weapons. For these reasons, the Air Force plans to remove all non-ALCM B-52Gs from the SIOP on 1 October 1988 and dedicate them to a conventional bombing force through the late 1990's. These increasing SIOP and conventional warfighting requirements combined with defense budget reductions make it imperative that we attempt to utilize existing assets to the maximum extent possible. "Life extension" for the B-52G represents just such an opportunity.

HAVE NAP

QUESTION: How many B-52Gs do you intend to convert for HAVE NAP? What would be the savings if these aircraft were retired in FY 1989?

ANSWER: The Air Force plans to modify 15 conventionally dedicated B-52G aircraft with the HAVE NAP weapon system. Since an urgent requirement exists for an accurate precision guided stand-off conventional weapon, calculations to determine any savings must consider the cost for an alternative.

F-16 UNIT COST

QUESTION: What factors have produced the 30% unit cost increase in the F-16 program? Do you believe the Air Force is getting a 30% more capable aircraft for the money?

ANSWER: Compared to the FY 88 budget appropriation, the Amended FY 89 request for the F-16 has increased 33 percent. The major increases in the flyaway unit cost are in the areas of avionics, engine and airframe. The avionics unit cost has increased from $2.9M in FY 88 to $4.7 million in FY 89. This cost increase reflects the added budget for the Lot 1 buy of 136 units of the Airborne Self Protection Jammer, which delivers with the FY 90 aircraft buy, and the initial production verification buy of the Advanced Radar Warning Receiver. (Current F-16 jamming capability is provided by the ALQ-131 external pod at a unit cost of $1.2M.)

The engine unit cost reflects an increase from $2.7M to $3.1M. This budget procures 18 Increased Performance Engines for a field service evaluation and funds the remaining buy of 162 Alternate Fighter Engines at the best estimate for the FY 89 engine split recently announced by the Secretary of the Air Force.

Block 40 airframe costs reflect the increased budget required to produce the strengthened Block 40 airframe with its 9G and 8000-hour specifications. When comparing airframe costs with FY 88, one must consider that the FY 88 buy consists of a mix of Block 30 and Block 40 aircraft. The Block 30 airframe cost in FY 88 is about $4.7M, and the Block 40 airframe cost is about $5.2M. This compares with a unit cost in FY 89 of $5.3M. Other GFE has increased by $0.1M for increased costs of Correction of Deficiency kits and installation labor. Other contractor costs have increased by $0.1M because of increased costs for contractor management of the Block 40 airframe, and Engineering Change Order costs have increased by $0.1M. A $20.6M inflation increase is also spread across all flyaway cost categories.

Nonrecurring costs have increased by $180.1M for Increased Performance Engine integration and tooling, the Electronic Warfare Suite integration for Block 50, and the HARM/Shrike Phase III integration. The Peculiar Support budget has increased $151.1M to reflect increased requirements for Block 40 Support Equipment Requirement Documents (SERDs) and to provide funding for depot support equipment.

The Spares account reflects an increase of $99.3M for initial spares requirements for ASPJ, engines, and general Block 40/50 requirements. It should also be noted that the FY 88 appropriation was reduced $75M for the weapon system and $21M for Initial Spares, contributing almost $100M to the difference between FY 88 and FY 89. The 30% unit cost increase is therefore made up of a variety of factors, The aircraft procured in this fiscal year have a significantly improved combat capability required to meet the advanced threat of the 1990s.

F-16 PRODUCTION RATE

QUESTION: Does the Air Force plan to sustain the 180 units production rate through the life of the next multi-year contract for the F-16? Did you consider reducing the annual production rate for the F-16?

ANSWER: The Amended FY 89 Budget contains an F-16 advance buy request to support a Multiyear III procurement of 630 F-16 aircraft in the following profile:

FY 90	FY 91	FY 92	FY 93	Total
180	180	150	120	630

F-15E UNIT COST

QUESTION: What factors caused the 16.5% unit cost increase in the F-15E program? What portion of the cost increase is attributable to the reduction in production?

ANSWER: The unit cost increases by 4.2% as a result of reducing the quantities from 42 to 36 aircraft in FY 89. Other factors raising the cost are primarily inflation, the purchase of 10 IPEs for a field service evaluation, adjustments in engineering change orders and the VHSIC central computer. These changes raise the unit cost from $27.5 million in FY 88 to $32.0 million in FY 89.

C-17 CONTRACTOR INVESTMENT

QUESTION: What is your estimate of the investment by the contractor in development facilities and tooling for the C-17 program?

ANSWER: The contractor's investment in C-17 related plant and equipment has totaled $380 million from 1985-1988 (including land costs).

C-17 R&D COSTS

QUESTION: Why did the Air Force spend hundreds of millions in R&D funds to provide production facilities and tooling for the C-17?

ANSWER: The Air Force is not directly funding any production facilities. Douglas Aircraft Company makes such capital investments and is at risk to capture reimbursement through the overhead (indirect) accounting structure. The decision to fund C-17 initial tooling with RDT&E funds came as a result of congressional language during the FY 87 budget cycle where it was determined that such expenses (initial tooling) should more properly be charged to the RDT&E account.

C-17 TOOLING

QUESTION: How will the Air Force recoup its investment in tooling for the C-17?

ANSWER: The tooling is peculiar and necessary for building the C-17. The Air Force can maximize the yield of these assets by procuring a minimum of 210 aircraft and with judicious augmentation of rate tooling at a manufacturing peak output of at least 29 aircraft per year.

C-17 COST SAVINGS

QUESTION: Can you identify the cost savings to the government achieved by providing the production tooling for the C-17 through the R&D programs?

ANSWER: Since the price to the government for initial tooling is the same whether financed through the RDT&E or Procurement accounts, there are no "savings." However, funding the initial tooling in the RDT&E account did result in lower up-front total obligation authority (TOA) requirements for the program (incremental vs full funding).

QUESTIONS SUBMITTED BY SENATOR D'AMATO

UNDERGRADUATE PILOT TRAINING MASTER PLAN

QUESTION: In November 1987, when the fiscal years 1988 and 1989 DoD Authorization Act was passed, the Congress asked for a report, to be submitted no later than February 1, 1988, containing master plan for meeting requirements for the Air Force Undergraduate Pilot Training Program. (Section 113(F)(2), H.R. 1748, November 17, 1987). What is the status of that report? When may we expect to see it?

ANSWER: The Air Force Trainer Masterplan has been submitted for approval to the Under Secretary of Defense for Acquisition as required by the National Defense Authorization Act for FY 1988/1989. Once approved, the report should be available to the Congress prior to 30 April 1988.

T-37 AIRCRAFT MODIFICATION

QUESTION: Line item 36 of the aicraft procurement, Air Force appropriations request for Fiscal Year 1989 asks for $12.9 M for modification of the T-37 aircraft. Is that request rationalized in the undergraduate pilot training master plan report?

ANSWER: The Air Force Trainer Master Plan contains a detailed discussion of the T-37 Structural Life Extension Program (SLEP) modifications. The masterplan explains the need for structural modifications and describes the funding profile along with the planned SLEP production schedule.

T-37 AIRCRAFT MODIFICATION PLAN

QUESTION: What can you tell us about the T-37 modification plan at this time? What is the purpose of the T-37 modification plan?

ANSWER: As a result of budget constraints, the Air Force plans to continue using the T-37 as a primary training aircraft and has developed a program to safely extend the T-37 service life beyond the current 18,000 flying hour limit. Presently the T-37 fleet hours range between 7,500 and 16,500 flying hours, averaging 12,500 hours. At the present rate of usage, high time aircraft should reach grounding limits in late 1990.

The SLEP modification will safely extend T-37 service life flying time by 15,000 hours from the time of the modification, by performing minimal essential structural modifications. Structural safety will be ensured by replacing six improved design components including: (a) canopy rails, (b) wing carry-through structures, (c) wing forward spar, (d) wing rear spar, (e) stabilizer attachment fittings, and (f) horizontal stabilizer. All six safety modifications were combined into one program for concurrent installation to minimize aircraft downtime and installation cost.

The initial kit installation date of April 1990 is intended to prevent the projected incremental grounding of the T-37 fleet beginning late 1990. The lead time built into this program is vital to assure appropriate engineering development, extensive failure testing and kit manufacture lead time. Delay in the funding will lead to loss of pilot training capability as aircraft reach structural safety imposed flying limits.

T-37 AIRCRAFT MODIFICATION CERTIFICATION

QUESTION: The Fiscal Years 1988 and 1989 DoD Authorization Act asked the Secretary of Defense to submit to the Congress a certification that the planned T-37 modifications are only for safety of flight purposes. (Section 113 (F)(3), H.R. 1748, November 17, 1987). What is the status of that certification? When may we expect to receive it?

ANSWER: The T-37 Structural Life Extension Program (SLEP) safety certification package was delivered to Congress 11 April1988.

T-37 DEPOT EMERGENCY REPAIR COST

QUESTION: I understand that a depot emergency repair program on the T-37 will be accomplished simultaneously with the safety of flight modifications. What is the Air Force estimate of the total cost of the emergency repair program?

ANSWER: The Depot Economy Repair Program (DERP) is being scheduled concurrently with the T-37 Service Life Extension Program (SLEP) to minimize aircraft downtime and installation cost. The DERP is required irrespective of SLEP accomplishment to maintain current safety of flight requirements. By conducting these simultaneously, the Air Force saves 2250 manhours per aircraft. If these repairs are accomplished by the operating units, the approximate time is 3000 manhours per aircraft. By accomplishing these tasks while undergoing SLEP modifications (when the aircraft has already been opened up) estimated time is 750 manhours per aircraft. The projected cost of the program is $22.9M.

T-37 MODIFICATION AND EMERGENCY REPAIR BUDGET

QUESTION: I understand that the Air Force has decided to install the modification kits and accomplish the emergency repair program itself, using in-house resources. What is the budget estimate for that work?
ANSWER: The current budget estimate for the installation of the T-37 Structural Life Extension Program and Depot Economy Repair Program is $127.6M.

T-37 AIRCRAFT WORK DECISION

QUESTION: Why did the Air Force decide to do this work in-house?
ANSWER: USAF exercised this option through a decision tree analysis and posture planning process which determined the assignment would provide a more stabilized (AF) industrial workforce within the Air Force Logistics Command (AFLC).

T-37 MODIFICATION AND EMERGENCY REPAIR TOTAL COSTS

QUESTION: What can we expect will be the total of appropriation requests for the T-37 modification plan and the emergency repair program?
ANSWER: The current estimate for the total cost to procure and install the six modifications which make up the T-37 Structural Life Extension Program (SLEP) and Depot Economy Repair Program (DERP) will be $216.8M. It will be requested between FY 88-96 based on the phased installation of the 610 aircraft affected.

T-37 MODIFICATION AND EMERGENCY REPAIR UNIT COST

QUESTION: What is the budgeted total per-unit cost, including both the modification plan and the emergency repair program?
ANSWER: The unit cost of buying and installing the six structural modifications which make up the structural life extension program and Depot Economy Repair Program for 610 aircraft is $355,500 per aircraft.

T-37 MODIFICATION AND EMERGENCY REPAIR SCHEDULE

QUESTION: What is the scheduled time-period of the

T-37 modification plan and emergency repair program?

ANSWER: Barring any congressionally directed changes in program funding, the T-37 structural life extension program will procure 610 kits in FYs 88-94 based on an installation schedule beginning with the prototypes in FY 90 and full scale installation in FYs 91-96.

T-37 MODIFICATION AND EMERGENCY REPAIR -- COST AND SCHEDULE ESTIMATE

QUESTION: How confident can you be about your total estimate and the time schedule until each 30-year-old T-37 is opened-up and inspected for purposes of the required modifications and emergency repairs. Isn't it a fact that this T-37 modification plan and repair program is essentially open-ended from a funding standpoint in that until you have opened-up and inspected most of these aircraft, you have no idea of what the total costs will be? Similarly, isn't it true for the same reason that you have no real idea how long it will take to do it?

ANSWER: We are quite confident with our estimate. The T-37 is a solidly built, unsophisticated aircraft and it is not characterized by complex structures or subassemblies requiring detailed or manpower intensive repairs. Our estimates are based on past experience, maintenance history and on-going engineering and technical evaluations. These evaluations and review of fleet maintenance records covering all parts of the aircraft give us a very accurate portrayal of the fleet condition. We have no reason to believe the aircraft condition will be anything other than expected, nor will there be a need for additional emergency repairs. The Service Life Extension Program (SLEP) includes a Depot Economy Repair Program (DERP). The DERP enables us to make manpower effective repairs to the aircraft while it is partially disassembled for the SLEP effort. The DERP is essentially those required repairs normally done by the using activity. We achieve a three-to-one manpower saving with this program i.e., the 750 manhours required to accomplish the DERP during the SLEP would consume 2250 additional manhours if accomplished by the using organization.

AIRCRAFT REQUIREMENTS FOR UNDERGRADUATE PILOT TRAINING

QUESTION: When, during the early years of this decade, this committee was considering Air Force appropriation requests for development and production of the T-46, we heard much about the many deficiencies of the T-37, and why Air Force undergraduate pilot training requirements necessitated a modern primary trainer. Have those requirements disappeared?

ANSWER: The Air Force continues to have a requirement for a modern primary trainer. The age of the T-37, combined with performance inefficiencies and old technologies, will continue to make it increasingly more expensive to maintain and operate. These deficiencies, while manageable at this time, reduce overall system effectiveness and require significant operational compensation. The program for replacing the T-37 and meeting future pilot training requirements is contained in the Air Force Trainer Masterplan which should be available to the Congress prior to 30 April 1988.

T-46 REQUIREMENTS

QUESTION: Which of the stated T-46 requirements will remain unsatisfied by the plan to modify and repair the T-37? For what period will those requirements remain unsatisfied?

ANSWER: The T-46 program grew out of operational deficiencies in the T-37's avionics, performance, fuel-efficiency, and altitude capability. With the cancellation of the T-46 program in March 87, the Air Force still had the same deficiencies, but with the only affordable option being the continued use of the T-37. The T-37 Service Life Extension Program (SLEP) will extend the service life of the T-37 beyond its current 18,000-hour limit by replacing six fatigue-critical structural components.

The T-37 will continue as our primary trainer until acquisition of the Primary Aircraft Training System (PATS). This is planned to be an off-the-shelf acquisition with an initial operational capability (IOC) planned for 1999.

T-37 DEFICIENCIES

QUESTION: It is true, is it not, that the T-37 modification and repair plan remedies none of the T-37 deficiencies?

ANSWER: It is not true that the T-37 modification and repair plan remedies none of the deficiencies. The T-37 Service Life Extension Program (SLEP) was designed to provide the most cost effective essential aircraft structural modifications necessary to ensure continued flight safety beyond the current service life. Modifications accomplished by the SLEP program include (a) canopy rails, (b) wing carry-through structure, (c) wing forward spar, (d) wing rear spar, (e) stabilizer attachment fittings, and (f) horizontal stabilizer. The Depot Economy Repair Program was designed to modify known flight safety requirements such as rewiring, corrosion control, etc. The combined programs do resolve currently known airframe structural deficiencies.

T-37 TRAINING PLANS

QUESTION: After completion of the modifications and repairs to the T-37, for how many years do you intend to train pilots with T-37?

ANSWER The T-37 Structural Life Extension Program (SLEP) modifications will allow the T-37 to remain airworthy past the turn of the century. However, SLEP does not provide any enhancements nor correct any operational or training deficiencies. Because of this, the Air Force plans to replace the T-37 with a new primary trainer aircraft with an Initial Operational Capability in 1999.

T-37 UTILIZATION RATE

QUESTION: It is true, is it not, that the modification plan will not facilitate a higher utilization rate for the T-37?

ANSWER: The T-37 Structural Life Extension Program (SLEP) modifications are designed to maintain Air Training Command's existing pilot training capability. The program only replaces fatigue-critical components necessary to maintain the airworthiness and flight safety of the T-37. Since SLEP is limited to structural modifications, it will not result in a change to the programmed utilization rate for the T-37.

T-37 AND INCREASED NUMBER OF STUDENT PILOTS

QUESTION: We understand that the Air Force has a pilot retention problem. If it is necessary for that reason, or any other reason, to substantially increase the number of undergraduate student pilots, will the plan to modify and repair the T-37, which requires transfer of a number of T-37s from training to the modification and repair line, accommodate such a contingency? If it is not included in the forthcoming master plan report, will you provide us an explanation of how such a contingency, in varying degrees, could be met during the period of the T-37 modification and repair plan?

ANSWER: The student pilot production rate will not be limited by the number of T-37 aircraft in the Structural Life Extension Program, even when that modification line is operating at full capacity.

The current limiting factor for pilot production is the number of T-38 aircraft available. This T-38 shortage was a principle motivator for the Tanker Transport Training System (TTTS) requested in the Amended FY 88/89 President's Budget. TTTS implementation will reduce the flying requirements for the T-38, shifting approximately half the student load to another aircraft for tanker/transport destined pilots.

PRODUCTION OF PRIMARY TRAINER AIRCRAFT

QUESTION: Are you aware of the fact that a number of off-shore aircraft manufacturers are expressing an interest in business arrangements with US companies to produce primary trainer aircraft in the US, and that a competitive acquisition of a US-built off-the-shelf primary trainer could be conducted at this time?

ANSWER: We are aware that many foreign aircraft manufacturers are interested in the Air Force's requirement for the Primary Aircraft Training System (PATS). However, budgetary realities do not permit acquisition of PATS prior to the timeline outlined in the Air Force Trainer Masterplan.

T-37 LIFE-CYCLE-COST COMPARISON WITH OFF-THE-SHELF TRAINER

QUESTION: Has the Air Force done a life-cycle-cost comparison of the plan to modify, repair and operate the T-37 versus the early acquisition and operation of a modern off-the-shelf primary trainer? Why not? Is such a life-cycle-cost comparison contained in the forthcoming master plan report for meeting Air Force undergraduate pilot training requirements? If not, how do you know that you have satisfied those requirements by the most cost-effective means?

ANSWER: The Air Force Trainer Master Plan addresses both the T-37 Structural Life Extension Program (SLEP) modifications and the purchase of a modern off-the-shelf primary trainer. A key consideration in the purchase plan of a new primary trainer is the timing requirement of SLEP and for this reason, there is not a specific life-cycle-cost study comparing SLEP costs to primary trainer costs. Without the SLEP modifications, the first high-time T-37s will be grounded in 1991. Exchanging the SLEP program for an off-the-shelf trainer dictates that the new aircraft become operational at a rate at least equal to the T-37 grounding rate. Without this one-for-one exchange our pilot production capability would be limited. The lead-time required to plan, develop and execute a program to purchase a new primary trainer makes it doubtful we could acquire the new aircraft in time to exceed the T-37 grounding rate.

TRAINER AIRCRAFT LEASING

QUESTION: The Air Force, has in the past, acquired support-type aircraft on a lease arrangement. Have you considered satisfying your undergraduate pilot primary training aircraft requirements, in the near-term, through that approach? Why not? It strikes me that such an approach could be a cost-effective means of satisfying those requirements. Would you look into that and report the results of your review?

ANSWER: The Air Force Masterplan does not consider leasing the primary training aircraft. Preliminary analysis indicated that leasing was not a cost-effective or timely method of acquiring the primary trainer especially considering the quantity and the potential service life of this aircraft. The Masterplan outlines our acquisition strategy as the most cost-effective approach.

RETAINING OUTGOING PILOTS IN RESERVE STATUS

QUESTION: Secretary Aldridge, in your statement you refer to an alarming drop in the pilot retention rate. As you know, quality pilots are a primary factor in gaining and maintaining air superiority in any combat situation. Are there any special efforts being made to keep outgoing pilots in reserve status?

ANSWER: By Air Force regulation, commanders and immediate supervisors are required to counsel officers to make sure that their decision to separate has been given thorough consideration. Discussions include the reason for separation, benefits of an Air Force career and the benefits of Reserve participation. In October 1987, this policy was modified to require the counseling prior to actual submission of the separation request. The commander and immediate supervisor must now certify in writing that the required counseling was accomplished.

RAPID REINFORCEMENT CAPABILITIES

QUESTION: On page 7 of your testimony, you state that rapid reinforcement capabilities are extremely important components in our commitment to the security of our allies. Because the recently signed INF treaty places an increased burden on our conventional deterrence in Europe, our rapid reinforcement capabilities take on an even more important role. How will budget cuts affect this capability?

ANSWER: Regardless of the INF treaty, our rapid reinforcement commitment to NATO during crisis or war remains the focal point of the USAF effort to maintain a robust stategic airlift capability. Our NATO rapid reinforcement objective requires us to deploy, within ten days of a decision to mobilize, a total of ten Army divisions (of which four, plus two armored cavalry regiments, are stationed in Europe in peacetime), 60 reinforcing tactical fighter squadrons, and one Marine Amphibious Brigade (MAB), plus support detachments for all these forces. Because of the timing of the reinforcement effort, airlift is critical. The FY 1989 funded airlift force will contribute to the achievement of this goal and will provide approximately 47.0 million-ton miles per day (MTM/D) of strategic cargo airlift capability, well below the current DOD goal of 66 MTM/D which we expect to approach at the turn of the century. Any degradation of this program will further delay achievement of this goal and impact our ability to meet our NATO reinforcement commitment.

OVER-THE-HORIZON BACKSCATTER RADAR

QUESTION: The Air Force is currently testing the Over-the-Horizon Backscatter radar. Could you tell me how those tests are proceeding, particularly with remotely piloted vehicles and small aircraft?

ANSWER: The objective of the Air Force Small Target Test Program is to assess the inherent capability of OTH radars to detect cruise missile size targets, to gather data on ionospheric propagation phenomena as related to small targets, and to determine the amount of additional radar sensitivity needed to provide high confidence warning of a cruise missile attack upon North America. The Test Program consists of the collecting of engineering and scientific data over an eight-month period, using the AQM-34M remotely piloted vehicle as a surrogate cruise missile, and electronic emulators simulating target return signals representative of large and small aircraft. The AQM-34M was flown during the day and at night at low altitude and high altitude, and at different aspect angles to obtain essential data to make a high confidence performance assessment. Our Small Target Test planning considered the most difficult or stressing conditions that exist at frequencies typical of night operation. We obtained data at frequencies and at ionospheric conditions that press the system to its limits. This will allow us to make a high confidence assessment of radar performance. We are pleased with the data collected. The RPV portion of the test was completed 31 March 1988 and the engineering data collection effort (using emulators) will be completed by the end of July 1988. We expect to complete analysis and report by the end of the summer.

SUBCOMMITTEE RECESS

Senator DECONCINI. Thank you for your candid responses and the fine performance that you put forward before this committee. We appreciate very much your willingness to educate some of us here on a day-to-day basis. It is very important.

The subcommittee will stand in recess subject to the call of the chairman of the subcommittee.

[Whereupon, at 11:40 a.m., Wednesday, March 30. the subcommittee was recessed to reconvene at the call of the Chair.]

DEPARTMENT OF DEFENSE APPROPRIATIONS FOR FISCAL YEAR 1989

THURSDAY, MARCH 31, 1988

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10:03 a.m., in room SD–192, Dirksen Senate Office Building, Hon. John C. Stennis (chairman) presiding.

Present: Senators Stennis, Johnston, Leahy, Sasser, McClure, and Stevens.

DEPARTMENT OF DEFENSE

STRATEGIC DEFENSE INITIATIVE ORGANIZATION

STATEMENT OF LT. GEN. JAMES ABRAHAMSON, DIRECTOR, STRATEGIC DEFENSE INITIATIVE ORGANIZATION

STRATEGIC DEFENSE INITIATIVE

OPENING STATEMENT OF SENATOR STENNIS

Chairman STENNIS. All right, friends, we are glad to welcome our visitors. We make only one request, that you be reasonably quiet so we can hear this highly important testimony that we are going to have now from one of the major segments connected with our military preparedness.

This particular hearing today goes into a special phase of the program. I am Senator Stennis, chairman of the committee. I am not going to hold the hearing up today. I do want to introduce the proceedings and the subject matter and emphasize every way I can the importance of these matters. It will be an illumination here, and all of you that can stay to hear these witnesses testify should do so.

Now I am going to call on Senator Johnston of Louisiana. He has made a special study of this particular project, as he does with many others. He is well versed in it. I am going to call on him after the presentation here of General Abrahamson, who is Executive Director of the entire project. As soon as we hear some of his remarks, I will call on Senator Johnston to conduct the rest of the hearing, subject of course, to requests that may come from any member of our committee.

All right, does any member want to make a statement here?

Senator Johnston, do you wish to say something?
Senator JOHNSTON. Thank you, Mr. Chairman.

PREPARED STATEMENT OF SENATOR JOHNSTON

Mr. Chairman, staff has prepared an excellent opening statement here which I would like to put in the record, and other than that, I would simply like to welcome General Abrahamson. He and I have had long discussions on this matter, some in committee, some in secret session, some in my office. Sometimes we agree and sometimes we disagree.

But my respect for his ability, for his articulateness is almost without spatial limitations. He is very effective in this program.

I am very pleased that we got together last year with the committee, with a resolution which ripened into full congressional action on which the administration and the Congress got together on backing a role for SDI which was a robust research program with the ability to respond to Soviet actions in terms of development, if necessary and appropriate, as the technology ripens, if it ripens.

This is a particularly important time, I think, for SDI. We are getting into the phase where we need to make some decisions about the direction of SDI. Various suggestions have been made from, of course, the President's original thought of the so-called astrodome, Senator Nunn's and others' suggestion of an accidental launch protection, others as a first strike interrupter so as to interfere with the pattern and the timing of a Soviet first strike, as to interfere with that; others who have other roles from some space-based ray gun roles, others, space-based kinetic kill. There are a huge number of roles for SDI. And we need to begin to think realistically about which direction we go.

I think none of the directions, at least as far as I am concerned, say that we do not follow a robust research role. That I think has been agreed upon, and we will—I believe the Congress wants to do that. But there are a whole number of choices that we have, and I will be interested in hearing from General Abrahamson on his view of what those choices should be.

OPENING COMMITTEE STATEMENT ON STRATEGIC DEFENSE INITIATIVE [SDI]

Today's hearing is the seventh held by the Defense Subcommittee to examine the fiscal 1989 military budget request. We will focus on the largest single research and development program within the entire Pentagon budget: the Strategic Defense Initiative [SDI].

The SDI budget request for fiscal 1989 is $4.6 billion for the Defense Department, not including about $100 milion sought for related military construction and $402 million for SDI activities in the Department of Energy.

The subcommittee will concentrate on the Pentagon request, although it is interested in the full scope of the program, not just the billions of dollars within its direct jurisdiction. Other subcommittees have the responsibility to examine the military construction and Energy Department requests for SDI.

Since the subcommittee reviewed SDI last year, there have been several major developments regarding the program, and we want to hear about them from today's witness, Lt. Gen. James A. Abrahamson, Director of the Strategic Defense Initiative Organization.

To accommodate fiscal realities, SDI's spending request for fiscal 1989 was reduced by $1.7 billion from the amount projected last year for next fiscal year. However, despite that reduction, SDI's budget enjoys 23 percent real growth above the $3.6 billion appropriated for fiscal 1988.

This request comes at a time of major reductions in many research, development, and procurement programs involving more well-defined and earlier military results, and amid reports that cost estimates for even the first phase of a Strategic Defense System have more than doubled from $40-$60 billion to $75-$150 billion.

The subcommittee wants to hear the justification for such substantial real budget growth in SDI in fiscal 1989. We also want to hear whether cost estimates truly have increased from last year's testimony, and, if so, how SDI's funding profile will fare in the near future, as increasing fiscal constraints force a $175-$300 billion reduction in defense spending in fiscal 1990–94.

During the past year, SDI also has undergone a significant, official transition from a broad-based effort investigating missile defenses into a more traditional Pentagon research program, with more defined military objectives and more specific program phases. Six critical SDI projects entered a Demonstration/Validation Phase last September; the Joint Chiefs of Staff validated the threat facing Phase One of a Strategic Defense System and defined its military objectives; and a Defense Science Board Panel assessed the program.

In view of past budget cuts, SDI also was restructured, and a decision whether such missile defenses are feasible has been delayed at least one year. Defense Secretary Frank Carlucci has asked the Defense Science Board again to assess the program—this time as to whether it has been restructured acceptably.

Given this context, the scientific, technological, military, and fiscal issues surrounding SDI remain as complex and controversial as ever.

The Subcommittee looks forward to hearing from General Abrahamson about all these specific developments and issues, and we invite him to begin his testimony after any statement by our distinguished Ranking Minority Member.

INTRODUCTION OF GENERAL ABRAHAMSON

Chairman STENNIS. All right, Senator, thank you very much.

The Chair wants to thank for the committee the work of Mr. Peter Lennon, Professional Staff Member, the fine work that he has repeatedly done for the committee and for this hearing and this subject matter today. I put a very high value on the far-reaching effect and the value of this work done by these respective people. I always want to acknowledge them and give them credit for it.

Now, General Abrahamson, we want you to have every privilege that goes with this high position that you occupy. I do not want to brag on you, as we say down in the South, but I do want to applaud the fine work you have done in your illustrious career, and I think we are very fortunate to have you, to take the line. This project, this undertaking is so important, and proceed with your own talent as well as using the talent of others, too.

All right. I will call on you now. You are the first witness. You can outline your proposition. This is, you might say, kind of an overall hearing anyway, and we will come back again on any points anyone wants to.

All right, proceed.

STATEMENT OF LIEUTENANT GENERAL ABRAHAMSON

General ABRAHAMSON. Mr. Chairman, and members of the committee and the audience, before I really comment on the program at all, I would like to point out that I am an old soldier. I have been around this business a long time, and that has given me the privilege of working with many Members and many committees in Congress, and since you have announced your retirement, and since this may be the last formal chance that I can in committee and for the record express what I really have felt, I want you to know that as a younger officer and as a mature officer now, I have been inspired by your role and by the way you have in the Senate been a statesman for the security of this country, and we are all going to miss you.

That does not mean, obviously, that we are not looking forward to working with you throughout the rest of the year, but now, for the record, since this may be the last formal time, I just want to thank you, that not only the soldiers and the people who represent the security of the country, I think the Nation owes you a great debt of gratitude, and I thank you, and I wish you well as we go forward.

Chairman STENNIS. Thank you, General. Thank you very, very much. I am most grateful for your kind words, and thank you for the encouragement it may mean to other youth who are coming along on the path behind us.

General ABRAHAMSON. Thank you.

Chairman STENNIS. All right, you proceed as you see fit.

From here on, if you would like to preside, Senator Johnston.

General ABRAHAMSON. I have for the record an open statement, and I will not quote from that. However, it is available and I think it deals with many of the issues of the program.

But as Senator Johnston has indicated, and Senator, I have enjoyed and appreciated our open relationship even though we have not always agreed—and by the way, the efforts that your staff and others have made to fully understand this program. It is a tough program, and I appreciate that.

BALLISTIC MISSILES THROUGHOUT HISTORY

I like to spend a lot of time with history, and every once in a while that is helpful as we think about how to make this program go ahead as a nation. And it was worthwhile to be reminded that we are now engaged in the second active war that is using in an extensive way ballistic missiles.

Sometimes people may forget that in World War II it was not a few of those V-2 missiles that fell on London. In fact, the Germans made more than 5000 V-2s, and they fired nearly 2500 of those V-2s with over 1100 arriving in the city on the United Kingdom, and the others being targeted against other European targets.

Now, many people can look back at that episode in history and say this was the work of a desperate adversary in a tragic, tragic war, and the losing act of a tragic war, and dismiss it, but I would recall for you and everyone else, and people who may not be putting this effort in proper perspective, that today there is a ballistic missile shooting war going on in the Middle East, and the two sides have traded at this point more than 150 ballistic missile firings.

In addition to that, obviously there are, it has been reported in the news, these various missile installations that are going on, and I think that we have an urgent need to do exactly whatyou indicated, Senator Johnston, and that is to be able to put in perspective not only the pace, the philosophy and what we are trying to do in this program, but the world situation and where that is going, because to fail to realize that there is a second active war with ballistic missiles right now today, and what that might mean for the future, and therefore to continue to rely only on this concept that the best way to prevent a nuclear conflagration is to leave the nation naked to the threat of ballistic missiles is, I think, not only naive but ignores the lessons of history.

Therefore, I think that is the appropriate place to start today.

But in addition, there have been, I think, a great number of misunderstandings that have been generated, and very often I frankly have to say I admire the press in this country as an institution, and that if you sum over all of the press and their activities, even though some take one position and some take the other, that it does do a proper service for the country.

Senator JOHNSTON [presiding]. There are days when we share your enthusiasm.

[Laughter.]

General ABRAHAMSON. Well, there are some days that you may indicate that you do not, sir, and there are some days that I do not, either. And I think that there have been a series of articles, mostly kicked off by one, that is not only misleading, it is pernicious, and it misrepresents what we are doing so badly, and it has been then picked up by other members of the press who have not taken the time and effort to do the research to understand whether or not that is accurate, that I have to take a minute at this point to try to put that in perspective.

GOAL OF SDI PROGRAM

The goal of the program has not changed from what the President laid out. It is particularly important to recognize that the President in his initial speech laid out the goal of the program to be a very long term goal, and in that sense, the sense of the Senate resolution last year was not inconsistent in our judgment with what we are doing.

PROGRAM RESEARCH

However, it is important as we proceed through the research program to recognize that no one ever undertakes something of this kind, that is this complex, this far-reaching, and suddenly puts it in place, or at one instant in history all of a sudden has all of the answers, perhaps the magic answer. This is not like that. It is like any other human problem, it has to be worked at and overcome a bit at a time, and therefore, we outlined and I testified year anter year here in formal hearings and explained to people the concept of phased deployment.

DEFENSE ACQUISITION BOARD PROGRAM REVIEW

That took on new meaning because of one of the very vital activities that went on last year, and that was our Defense Acquisition Board Review on the program, and the first and most important thing to say is the program was last year, remains this year, and will remain for several years in the future a research program. That board result was not a signal that we have moved out of research into or made any informal or secret decisions of any kind in terms of moving into full-scale development or made production decisions.

The value of that Defense Acquisition Board was that rather than have to rely forever only on looking technically into what avenues we could pursue, we got strong guidance from the top military echelons in the country and strong inputs from strategic thinkers and others about what ought to be the initial steps leading in the long term toward the President's goal.

PRESIDENT'S GOAL FOR SDI

Now,@that has been not only misinterpreted but misrepresented. That was never intended to be a fundamental change in SDI's overall, long term goal. It was, by the military and by the Joint Chiefs of Staff, considered to be the first meaningful level of military contribution toward this tremendous task of ensuring that we can prevent a nuclear war in the first place.

That first step, and that is what it is, a first step, represented the Chiefs and the Chairman's judgment about how effective that first step should be so that it can be used in consonance with our offensive forces, hopefully reduced levels of offensive forces through arms control measures, to ensure that we can have the most robust and the best possible deterrence available to us, to prevent the war in the first place.

It was intended only to be partially capable because of a very important philosophy in the program, and that partial capability, we could have said, pick those technologies, focus only on those technologies, and then ensure that there are enough of the sensors and enough of the various interceptors so that you can try to counter the entire threat that the Soviets have today, or the threat that they might have in the future.

We deliberately picked something much less than that, not because that could not be done, but because it s not consistent with the long term philosophy of the program. And the long term philosophy of the program is that we should put the right combination of sensors and weapons and battle management in place so that you will present the other side over time and building up to the final goal with a combination that they will feel they cannot achieve their military missions. And by doing so, you will increase our ability to prevent the war, and then in the long term, although I hope, and every one of us sincerely hopes it will never happen, if deterrence would break down—and historically it has broken down—that we would be able to, as a result of that system, protect our people and this Nation in such a way that we can preserve what we believe in and what we stand for, and we will not be intimidated in the process of some terrible crisis to give up what this whole country can onfer the world.

Therefore, to misinterpret the first step as reducmd goals and scope is an absolute mistakm.

ACCIDENTAL LAUNCH PROTECTION SYSTEM

Now, there have been additional suggestions that said if that is the first meaningful, important step from a deterrence viewpoint, are there ways that we can build up to that first step, some incremental steps on the way, that make sense, that might be important given the situation in the world today? One of those suggestions has been made by several different people, certainly most notably and perhaps articulated most effectively by Senator Nunn when he talked about an accidental launch protection system.

I would like to assure the Members of the committee that in the Department of Defense, while we are not abandoning the long term goal and we are not abandoning the clear requirement that was set up by the Joint Chiefs and looking for the best way that we can meet that, we are very seriously looking at what is the right sequence in order to get to that point, and how can that sequence help us in terms of some of the objectiver(/utlined in such a proposal.

Now, those proposals have many issues associated with them, treaty issues, negotiation issues with the Soviets and certainly technology issues. So we are taking it very seriously, working those issues, and the Secretary of Defense is keeping a clear communication channel with most of the people that are interested. I was very pleased to have some of those discussions this week.

So while the answers and the final position of the administration on a limited protection, first step leading to this military step, is not yet clear and will not be for several months, we are taking the issue seriously and trying to be responsive in our studies.

LONG-TERM ISSUE OF SDI

Now, if I may turn to one final point, to the long term issue and the sense of the Senate resolution that was passed by the Senate last year, it pointed out the joint nature of the support, that it is not only one party for the research program.

And I will have to say that I have appreciated that and, while there is a great deal of debate, when it comes to the bottom line the Congress has given us substantial increases each year, in a very difficult budget environment and a very difficult environment of national priorities.

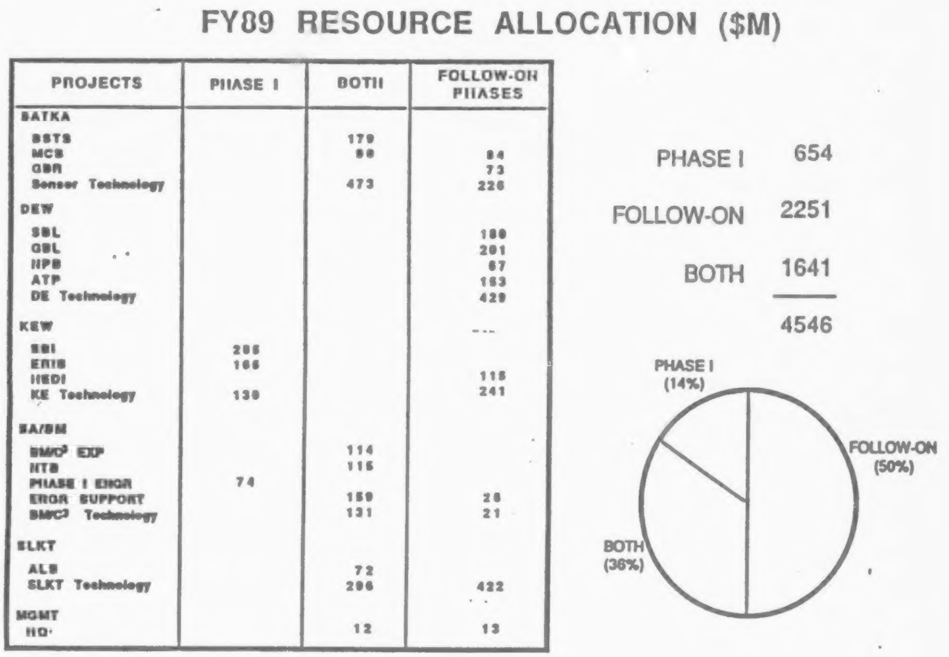
And all of us who are working and dedicated and feel that this program is one of the very highest national priorities appreciate that vote of confidence. And we think that the technology and the advances that we are making warrant that confidence.

It is not as much as we have asked for. It has caused us great difficulty as we have made choices in programs and tried to implement the cutbacks that were represented. But nonetheless, we are making very, very substantial progress. We can comment on some of that in open session. Most of it we can comment on in closed session.

And we have tried to provide briefings to the very busy members and staff people to outline that, and you may have some questions in that area.

But the question of balance and how have we dealt with that budget cutback and how have we established the priorities in the program I think that I can best present in one simple diagram, and I would like to put this up here.

[Slide]



FY89 RESOURCE ALLOCATION ($M)

PROJECTS	PHASE I	BOTH	FOLLOW-ON PHASES
SATKA			
BSTS		179	
MCS		88	84
GBR			73
Sensor Technology		473	228
DEW			
SBL			180
GBL			201
NPB			87
ATP			153
DE Technology			429
KEW			---
SBI	285		
ERIS	166		
HEDI			115
KE Technology	130		241
SA/BM			
BM/C^3 EXP		114	
NTB		115	
PHASE I ENGR	74		
ENGR SUPPORT		159	28
BM/C^3 Technology		131	21
SLKT			
ALS		72	
SLKT Technology		296	422
MGMT			
HQ		12	13

PHASE I	654
FOLLOW-ON	2251
BOTH	1641
	4546

PROGRAM ELEMENTS

General ABRAHAMSON. If you look in this pie chart, down on the bottom side we have taken our five program elements where all of our technomogy is laid out. And at first we did not do it very well. I do not think we represented it very accurately in our first comments.

But if you will look and see, there are three categories of research that are going on: phase one and systems that would only be used or dedicated to phase one technologies and then, not thrown away, but built on when we go into the newer technologies for phase two, only represent about 14 percent of the total budget, the research budget.

The effort for the long term, the follow-on, the directed energy—and it is not only directed energy; it is micro-miniature kinds of kinetic energy weapons as well, and rail guns and such things as that—that is represented in the large green. 50 percent of the research effort can fall in that category.

What has been confusing, I believe, is that many peoplm have not looked at our budget carefully Mnough to understand that there is this yellow category here, where we must build sensors and we must build battle management capability and we must do the research now so that they can be built and built efficiently at some point in the future.

And those systems will support both the near term and a long term elements of such a deployment, a BSTS, for example, and the battle management that goes with that. And people have misunderstood that.

And therefore I believe that this is an accurate presentation of the general categories of the program. And I believe that we are following the sense of the Senate in the very helpful resolution that was passed last year. And I can go into detail on this and I will to answer any questions. But I believe that this indicates that that helpful resolution is exactly the way we are proceeding toward the long term goal.

And with that, I will open up for any questions, sir.

[The prepared statement of General Abrahamson follows:]

STATEMENT ON

THE STRATEGIC DEFENSE INITIATIVE

BY

LIEUTENANT GENERAL JAMES A. ABRAHAMSON
DIRECTOR, STRATEGIC DEFENSE INITIATIVE ORGANIZATION

Mr. Chairman, thank you for the opportunity to appear before your subcommittee today to discuss the Strategic Defense Initiative (SDI) Program. It has been five years since President Reagan established the SDI Program and I am pleased to say they have been very successful years. As we proceed into our sixth year with the new Secretary of Defense, Mr. Carlucci, I fully expect the SDI Program to continue its impressive course toward the development and eventual deployment of strategic defenses.

I would like to emphasize the consistency of our goal -- to conduct a vigorous research and technology development program that could eliminate the threat of ballistic missiles and provide increased U.S. and allied security. Within this goal, the Strategic Defense Initiative Organization's technical objective is to demonstrate the validity of SDI technologies and concepts and to provide a broad set of defense options that support a future decision on whether to develop and deploy strategic defenses. To this end, the SDI Program seeks to develop the technologies and concepts to support a phased development of antiballistic missile defenses. A Strategic Defense System (SDS) will be designed to meet and defeat the offensive ballistic missile threat not only at the time of deployment of the defenses but also in the event the threat evolves in the future in response to that defense.

In mid-September the Defense Acquisition Board (DAB) concluded a rigorous examination of the entire SDI research effort and recommended that six SDI technologies were of sufficient maturity to enter the demonstration and validation (Dem/Val) phase of the defense acquisition process. (See figure 1) The purpose of the demonstration and validation phase is to evaluate -- through analysis, experimentation, and simulation -- the feasibility of critical elements of a potential, initial phase of an SDS.

SYSTEM ELEMENT	FUNCTIONS
Boost Surveillance and Tracking System (BSTS)	• Detection of missile launches • Acquisition and tracking of boosters and PBVs • Kill assessment
Space-Based Surveillance and Tracking System (SSTS)	• Acquire and track PBVs, RVs, and ASATs • Discrimination
Ground-Based Surveillance and Tracking System (GSTS)	• Acquisition • Tracking • Discrimination
Space-Based Interceptor (SBI)	• Disabling of boosters, PBVs, RVs, and ASATs • Sensors on carrier vehicle (CV) could provide enhanced midcourse sensor capability
Exoatmospheric Reentry Vehicle Interceptor System (ERIS)	• Disabling of RVs in late midcourse
Battle Management/Command and Control, and Communications (BM/C3)	• Man-in-the-loop control • Engagement management • Maintaining track data • Target assignment • Communications

figure 1

At the same time, the Defense Acquisition Review Team (DART) was formed to manage issues to be addressed and resolved by annual DAB reviews. The team is presently working towards a DAB in June which will review the current SDI Program. Issues which were raised by the DAB that will be reviewed in June include:

- The SDI full scale development management plan
- The SDI approach to system engineering
    - Phase One Engineering Team (POET)
    - System Engineering and Integration (SE&I) contract
- Joint Air Force/SDI Boost Surveillance and Tracking System (BSTS) plan
- Cost estimates and COEA
- Discrimination, Lethality, and Battle Management/Command, Control, and Communications
- Continuing environmental impact analysis
- An integrated contracting plan

The POET is already operating within SDIO. The SE&I contract will be awarded in May, 1988. The Air Force/SDIO BSTS report is due in June, 1988. The remaining requirements are in coordination and will be available for the June review by the DAB.

As a key part of the process leading to the DAB recommendation, the Joint Chiefs of Staff (JCS) formally defined ballistic missile defense operational requirements for Phase I. The JCS recognized that these initial requirements, if achieved, represented the first step toward the President's goal of "eliminating the threat posed by strategic nuclear missiles." Additionally, they provided the SDIO an operational benchmark, essential in our process to determine the feasibility of deploying a thoroughly reliable defense against nuclear ballistic missiles.

The SDIO used these requirements to identify the most effective, balanced architecture that would meet JCS Phase I operational goals and permit evolutionary growth capability. We have examined the effectiveness of the Phase I SDS under a broad variety of stressing scenarios and our analyses show that the DAB-approved Phase I SDS should be capable of meeting the JCS requirement. Thus, our strategy for the SDS is to proceed with the demonstration and validation of those system elements approved for Phase I while continuing a balanced research effort in support of concepts for follow-on phases of a future SDS.

Some recent suggestions have been made, notably by the Chairman of the Senate Armed Services Committee, Sam Nunn, other Senators, Congressmen, and some highly distinguished experts in strategic policy planning and technology, that DoD should begin to review the possibility of deploying systems for use against an accidental launch. In response, we have initiated studies to examine the practical possibilities, cost, and effectiveness of accidental launch options. An important issue is the relationship between these options and the technologies in our baseline Phase I architecture. We are undertaking those studies seriously and initial results will be available in the Spring and Summer for consideration by the appropriate decision makers and discussion with the Congress. As part of our ongoing and systematic review of the SDI Program we will be considering a range of options and alternative architectures.

The SDI Program has come under considerable criticism in the past year for an emphasis on "early deployment" options at the expense of far-term technologies. This is not the case. The research continues to be balanced between mature and advanced technologies. We have not sacrificed the technology efforts for directed energy concepts while promoting Phase I elements.

Even after the DAB decision to proceed with Dem/Val of Phase I elements, Directed Energy continues to receive the second largest, next to Sensors, allocation our very limited budget. Further, it is important to recognize the funding for Kinetic Energy projects also includes projects that are not part of the Phase I effort. Specifically, the High Endoatmospheric Defense Interceptor (HEDI) is not part of the Phase I elements approved for Dem/Val, nor is the hypervelocity rail gun, with their supporting advance technology programs. Both are viable technologies for follow-on phases that continue to be supported through Kinetic Energy Program Element. Finally, had we not invested in several of these Kinetic Energy systems and their supporting technologies, such options as accidental launch protection would not even be available to be considered.

One of the more prominent follow-on projects being conducted by SDIO is the Zenith Star project. The Zenith Star project is currently in the study phase. The object of the study is to develop an experiment design and concept to meet SDIO criteria and to ensure that it will be consistent with the ABM Treaty. The proposed Zenith Star experiment is being reviewed for compliance with the ABM Treaty. As a result of the compliance review conducted to date, it appears that such an experiment using the Alpha Laser and the LAMP Mirror and various optical sensors could be conducted in a compliant manner. This experiment is important as it will help SDIO establish the feasibility of space-based directed energy concepts for follow-on phases.

President Reagan, Mr. Carlucci, and all of us fully recognize the importance of follow-on technologies to the success of a SDS. We must be capable of addressing the evolving threat from the Soviet Union. Our research efforts must have the obvious potential of countering a broad range of Soviet responses. By demonstrating that those responses can be countered we will discourage Soviet efforts in those directions. This will save both their resources and our own. I call this a research strategy of "branching and blocking". We have not created a situation where Phase I is the end -- it will be the beginning.

Last year's budget reduction of 32% off the requested level represented greater reductions than any other major DoD Research and Development (R&D) effort. The Army R&D account was reduced by 15%, the Navy R&D account by 9%, and Air Force R&D by 19%. On average, defense agencies were reduced by only 8%. None of the programs conducted in these accounts are comparable to the effort required of the SDI research program. Principally, the reductions to the SDI Program for fiscal year 1988, along with the reductions in the out years that logically flowed from those cuts, will cause a delay of one or two years in the overall program structure. Some of the budget impacts to the Program Elements include:

Programs and Systems: For the Strategic Defense System (SDS) Phase I project the Systems Engineering and Integration effort was reduced. This will delay the system requirement definition and a Milestone II decision on the Phase I SDS. Reductions to the SDS Engineering and Support project will delay manufacturing initiatives, reduce integrated logistics support studies, and severely curtail the producibility program. The result of these adjustments is increased risk in new technologies and delays to designed-in supportability an high payoff areas such as on-orbit support, and critical impact on our ability to address affordability.

Reductions to the Battle Management/Command, Control, and Communications BM/C3 program have caused a 1-year delay to both the Command Center and the Network experiments. These delays also result in a 1-year delay to the integrated experiment. Finally, reductions to the National Test Bed project will cause a delay in achieving an initial operating capability. The result will be increased risk to the validation of BM/C3 concepts.

Sensors: Congressionally mandated cuts to the SDI Program have had a serious impact on the Space Surveillance and Tracking System (SSTS) program. Appropriated funds are considerably less than requirements for the two concept definitions contracts which were awarded in the last quarter of FY 1986. This shortfall has forced the Systems Programs Office to renegotiate both contracts thereby adding costs, increasing risks, and delaying critical technology demonstration programs. The Ground Surveillance and Tracking System technology validation experiment will be seriously impacted as well.

Kinetic Energy Weapons: The most visible impact on ERIS of the FY 1988 funding reductions was a slip in the first ballistic flight at the Kwajalein Missile Range. The $60 million reduction to the ERIS program caused prime contractors and related subcontractors to be restructured and forced significant reductions in contractor and government agency efforts. Funding reductions have also forced significant restructuring of the HEDI program. Flight tests at White Sands Missile Range were reduced, thruster and control work was deferred until FY 1989, ground test were reduced by half.

Reduced funding levels now appears to be the only impediment to the building of a weapons-grade hypervelocity gun. The near-term hypervelocity system would support the area of ground-based terminal defense.

Directed Energy Weapons: In the area of chemical laser technology, all major technology base programs have slipped one year. Free electron laser efforts supporting the ground-based free electron laser technology integration experiments have been downscoped. Space-based free electron laser activities have been severely curtailed. In the Neutral Particle Beam technology project, there has been a fifty percent reduction in the FY 1988 and FY 1989 programs.

Survivability, Lethality, and Key Technologies: All subsystem and system level validation testing of survivability technologies were deferred until FY 1989. The theater defense portion of the lethality project was reduced. Non-nuclear megawatt projects in the Power and Power conditioning project have slipped. The SP-100 GES project has been slipped and some ground tests reduced in scope. Follow-on work for the ground power study and the SPAS have been eliminated.

The amended fiscal year 1989 budget request submitted to Congress in February reflects our best assessment of where our money needs to be spent to keep the Program on a course consistent with our original goals and objectives. We readjusted our request for fiscal year 1989, as did the entire Department of Defense, in accordance with the agreement reached with congressional leaders. The entire Department was asked to cut nearly $33 billion from its budget request. All the Services and agencies have felt the pinch of austerity. We were asked, however, as pragmatic Program Managers to closely scrutinize our budget requests and present what we considered to be the absolute minimum necessary to conduct our programs without jeopardizing national security. I consider the $4.5 billion request for DoD SDI efforts to be the absolute minimum request, which is both necessary to conduct reasonable SDI research efforts and to ensure a technical feasibility decision in the early 1990's. Our request is a figure which is consistent with the total defense budget request, agreed to at the budget summit. The Program Objectives Memorandum (POM) for the SDI Program is being coordinated and is due to the Executive Director of the Defense

Resource Board, Mr. Chu, on April 4, 1988. A detailed project list consisting of the FY 1988 amended budget and the FY 1989 request is attached.

Cost management is a premier goal of the the Strategic Defense Initiative Organization. We recognize that the cost of defense equipment, including its research, development, production, and support must be reduced to affordable levels. The SDI Program has a dynamic and multi-faceted cost and affordability program to guarantee that candidate strategic defense systems and technologies meet these stringent goals.

We continually review our system requirements to ensure that only absolutely essential capabilities are called for. We are investing in research on equipment technology which will allow us to accomplish missions more inexpensively. We are also investing in production technology which will assure we can build systems more inexpensively.

As a result of all these steps, we are bringing about real changes in the nature of the products and processes of our business, and this makes the SDI cost estimating requirements very challenging. We are studying and learning from acquisition history to understand the labor and material requirements of past programs, and (to an appropriate level of detail) adjusting data, factors or cost estimating equations to reflect this new way of doing business. To date, our estimates for the DoD Cost Analysis Improvement Group (CAIG) and the DAB process (i.e., $75 to $150 billion acquisition costs) have been developed by traditional means. In the future, we will capture the cost reducing effects of these very fundamental changes in the systems acquisition process. Initially, we will establish challenging but attainable cost goals, and then, over time, we will drive our fiscal requirements down.

As I mentioned in my opening remarks, the SDI Program has experienced many successes over the years. I would like to take a few moments to highlight two of the more recent successes that clearly demonstrate the breadth of research we are conducting under the SDI Program. This year, SDIO achieved a milestone by successfully conducting the most complex space experiment ever attempted by the United States--Delta 181. The Delta 181 experiment was a success as we met our four primary objectives: characterization of rocket plumes; characterization of various test objects in a space environment; characterization of backgrounds that will be encountered by a space-based Strategic Defense System; investigation of spacecraft glow and various release phenomena in a space environment. Three of the four secondary objectives were also met.

The Delta 181 experiment was designed as a research and development mission to support aggressive, basic phenomenologic research in strategic defense. The data collected and experiences gained by through the Delta 181 mission has had an immediate influence on SDI research.

I also want to take the opportunity to share with you the progress that we are making in sharing the results of our research with other DoD, federal and state agencies and the private sector. We are doing this not in any way to justify the program because of its technological spin-off, but rather because we would be remiss if we did not make every effort to provide a vehicle for access to these technologies within the context of National security considerations.

Toward that end, I established an Office for Technology Applications within the SDIO and charged a small, but dynamic group of people to forge a link between those conducting SDI research all over the Nation with other programs within the DoD and civilian sector who had a legitimate need for the technology. One example of this is the Medical Free Electron Laser program which was established as the direct result of congressional foresight. The Congress has authorized approximately $15 million per year, under SDI management, for the Medical Free Electron Laser Program. Our program is establishing centers in California, Tennessee, Maryland, New York, and North Carolina. Laser technology is being applied to a host of medical research applications with some early, exceptional results: A process has been developed at Massachusetts General Hospital to fragment kidney stones using a pulsed laser. The clean cutting of bone (osteotomy) without charring has also been achieved by researchers from Utah. This technique has significant promise to simplify and shorten the time for the delicate surgical procedures in joint surgery such as the replacement of fractured hip joints in elderly patients. On an experimental basis, a laser technique has been developed which has demonstrated the purging of Leukemia cells from bone marrow. Those same researchers have also demonstrated that the entire family of viruses (which includes Herpes, Measles and HIV) are susceptible to photoactive destruction when exposed to laser light. The research has evolved a process which could be used one day to cleanse the blood supply of the AIDS virus in blood bank applications. Work is continuing to extend and improve the process using the capabilities of the Free Electron Laser.

These are but a few of the exceptional advances in technology that are coming about as a result of the fine work by so many talented SDI researchers from all over the nation. We are confident that this progress and progress in other areas will provide a significant return on the investment of the American people in this program.

The SDI Program has advanced tremendously since our beginning in 1983. We have proven the feasibility of intercepting a missile in the endo-and exo-atmosphere as well as space (FLAGE, HOE, and Delta 180 experiments). We have confidently advanced the means of discriminating targets from decoys (Delta 181). And, we have proven the feasibility of propagating a low power laser beam to space (Maui experiment). These advancements allow us to believe, quite credibly, in the overall feasibility of strategic defenses. The United States will be able to defend itself against ballistic missile attack.

SDIO COOPERATION WITH COMMITTEE STAFF

Senator JOHNSTON. Thank you, Mr. Chairman.

Thank you very much, General. I want to thank you for your cooperation in providing at my request extensive briefings in the last several weeks to the defense LA's on this committee. We appreciate SDIO's assistance in arranging staff trips to the national labs, to SDI headquarters and contractors, and we want to commend you for that kind of cooperation.

And I know we will have your cooperation in ensuring that classification review on our latest staff report will be expedited.

General ABRAHAMSON. Yes, sir. It is always difficult, but we will do our very best.

Senator JOHNSTON. Thank you very much. I know that is a big job for you.

ACCIDENTAL LAUNCH THREAT

Now General, there has been this talk of accidental launch, and to me the threat of an accidental launch is not really a great one. I mean, I know it is in the process of study, but would you tell us what the threat is, how it might come about, the accidental launch?

General ABRAHAMSON. I think that is a good question, and probably the right place to start in the whole process, sir. We have looked at it and, again, there is more sensitive information available, but we believe that it falls in essentially three kinds of categories.

The first one is an accidental or an unauthorized launch from the Soviet Union. We believe that they have in place very complex and responsible means of trying to control the people and the systems that are in place for their offensive nuclear forces.

There is always the possibility. It is very, very minor, I think, but always the possibility that in some way somehow that might be circumvented or some madman might be able to get through. But I think that is a very low possibility.

Senator JOHNSTON. Well, let me ask about that.

General ABRAHAMSON. That is one category. The other categories are from other countries.

Senator JOHNSTON. First of all, with respect to that first category, their missiles I would take it would be controlled such as ours. You are not talking about one missile. They are probably controlled in clusters.

So if there were an accidental launch, it would be a whole cluster that would be launched.

General ABRAHAMSON. Yes, sir. Well, obviously it depends on what the scenario is and what really happens. But it is, I believe, as high a probability that, instead of merely one or two, it might be several. And there are scenarios that indicate that.

I think both probabilities are low. But after all, if that happened, it would be a tragedy, a human tragedy of immense proportions.

Senator JOHNSTON. Of course.

SUBMARINE (LAUNCH

The worst case, I guess, of an unauthorized launch would be a Typhoon submarine, which could launch, as I understand, 160 warheads at one time.

General ABRAHAMSON. Yes.

Senator JOHNSTON. But you say that the goal of SDI has not changed. I mean, obviously if you have an Astrodome, a population protector, it encompasses everything. But accidental launch has never been a main concern of SDI. I mean, it is like bolt out of the blue with respect to MX. The Air Force doctrine is that that is not a plausible sort of threat, am I correct on that?

General ABRAHAMSON. It is addressed as a portion of some of the requirement document, but only as a capability leading step by step toward a long term goal. It has not been ignored, but it has not certainly been a primary thrust of what we are doing.

SDI AS PROTECTOR AGAINST ACCIDENTAL LAUNCH

Senator JOHNSTON. Well, I guess to put the question another way, if we decided or you decided or our country decided we could not afford SDI as a population protector or as a protector of missiles or as a command and control and communication protector, those sort of things, then would you not agree with me that to build it as a protector against an accidental launch from the Soviet Union would probably not be worth it, considering the implausibility of the threat and the cost to build against that limited threat, would probably not be worth it?

General ABRAHAMSON. Well, that is a value judgment that I think represents both a political and a military one in this sense. If that were any kind of a real possibility, would that be the event that might kick off a war of some kind?

I think the important thing of what you indicated, Senator, is that if that were the only goal of SDI and putting your question in that context, you would certainly look very long and very hard at that kind of a question. And that is why we have never considered it to be an only goal and that is why I believe some of these reports that we have scaled back on our long term goal are really so misleading and why they are difficult.

Now, as a step on the way to a military level of deterrence and eventually a military level where defensive systems can offer a great majority of the deterrent capability of the system, then obviously it makes sense.

FOREIGN COUNTRY THREATS

Senator JOHNSTON. It is a nice thing to have if you are going to do the rest. What are the other two parts? From a foreign country?

General ABRAHAMSON. The other threats are, of course, from a foreign country. The capability to build missiles is just expanding rapidly. Small companies in this country have embarked on commercial programs of their own to build missiles, and certainly nations, even nations that do not have a great deal of resources can.

It will be affordable, I believe, in the future for them to acquire the kinds of technology such that they could build missiles. And therefore the possibility of a launch from some other country is a real one.

Again, I believe that it is not huge at this point in time, but a few years downstream it may be very real.

Senator JOHNSTON. A protector—an accidental launch you could take care of with ground launched missiles, and I understand the preliminary cost estimate of that is $8.1 billion, which would really be, if we went for an accidental launch system, it would really not be SDI as we know it.

General ABRAHAMSON. That is correct, it would not be SDI as we know it. By the way, that particular cost estimate, just like many of the cost estimates for the larger SDI system, is based on an assumption of what would be there. And that is what we are trying to trade off.

Senator JOHNSTON. I understand. I think you and I agree on that.

NITZE TEST

Now, General, the Nitze test, is that still SDI doctrine?

General ABRAHAMSON. It has been. I would like to point out that that criterion was laid out in the initial presidential direction. It is the President's criterion. I think Ambassador Nitze did a service to us all by explaining it very, very effectively and articulating it.

Senator JOHNSTON. Which is being cost effective at the margin?

General ABRAHAMSON. Yes, sir.

Senator JOHNSTON. So effectively, that means we do not want to put up a system where our cost of destroying a warhead exceeds the Russians' cost of building one or delivering one on the United States, is that fair?

General ABRAHAMSON. I think that is a way to say it. There are several ways. I think the important thing is we would not want to be encouraging them economically to respond to SDI by building more missiles.

And the key point is, because if they did that or even pursued many other kinds of countermeasures, that if it were cheaper for them to do that then the United States and our allies would be on the wrong end of an economic strategy.

MX MISSILE COSTS

Senator JOHNSTON. Now, General, in the 1989 budget request we have twelve MX missiles and the cost per warhead as I figure it is $8.33 million. Now, assuming that the Soviet Union can build their warheads for the same cost on SS–18's—and I think that is a fair assumption; it is hard to translate rubles to dollars, and I have seen their costs.

Well, in any event, I think it is a fair assumption to say that it is somewhat comparable. Then that would mean that—and assuming that you have got a $150 billion cost of a system, that would mean that we would have to intercept something like 9,000 or 18,000 RV's in order to meet the Nitze test, am I correct?

General ABRAHAMSON. No, sir. And the reason is—and I think that is the important part—you started from the assumption of the cost of a warhead. The cost to deliver that warhead includes not only the cost of the warhead itself for them; it also includes the cost of the missile that is there, the cost of the people, the cost of the entire installation, and operating all of those elements.

And that is one of the reasons that it is so very difficult in fact to try to effectively implement that criteria. But it is important.

Senator JOHNSTON. I included the cost of the missile.

General ABRAHAMSON. In the $8 million on the MX?

MISSILE LIFE CYCLE COST

Senator JOHNSTON. Yes, on the MX that includes the cost of the missile. I did not include the cost of rail mobile. If you want to include—the cost of the missile would be $8.33 million per warhead. If you want to go for the life cycle cost of a rail mobile, using the higher figure, which is $15 billion for 500 warheads, you would have about $30 million and that is the life cycle cost.

And the $150 billion high level SDI cost does not include life cycle costs, as I understand it. That is the cost of deployment, and life cycle would be considerably more.

But in any event, take a higher cost. You would have to intercept how many to compete with somewhere between $8 and $30 million per warhead?

General ABRAHAMSON. I will have one of my quick people with a calculator do the calculation. But the other part of it is you have picked the highest end of the range of the various costs. And I would like to in fact put that whole thing in perspective.

And that is one of the reasons we are a research program. At this point in time, we are calculating and coming up with cost estimates for a phase one kind of system as a tool to guide our research. And let me give you an example of that and how we use it and why it is important.

By the way, the bottom end of that is down—and I first stated with $40 to $60 billion and I think it is somewhere at $70 or $75 billion at this point in time.

Our job is to take the high cost elements of that and reduce it, drive it down, so that when the time comes for the decision, rather than prejudging what the results of the research might be today—and that is the big mistake with the kind of calculation that you are laying down.

Senator JOHNSTON. Let me interrupt you, General. I know where you are going and it is perfectly legitimate, what you are saying. But just the mathematics of this thing, if you use the high figure of $150 billion, and that is without inflation and that is not life cycle costs, then you miss the target by something like ten to one.

Now, if you use your midpoint you miss it like seven to one. And if you build in all kinds of other assumptions, you miss it by lower factors. If I built in all the assumptions I could think of, you might miss it by five to one.

General ABRAHAMSON. Well, that is not where our calculations are, sir. Our calculation says—we try to in fact go through that modeling process, and I will have to admit that it is very early. And we do not use the MX because we are not trying to defeat our system; we are trying to have an economic system that will deal with what the Russians will do.

And at least our preliminary cost estimates are that when you consider the real effect of what has to happen—and that is a key element in this. It is not just will you destroy a warhead or not. If you want to do the calculation on that basis, our cost estimate for an ERIS missile is and our goal for that is $1 million. And they are not even going to come anywhere near it, if you want to use that kind of a basis.

What you have to do is you have to put it in the context of the strategy and what the Soviets would do. And if they are forced to then not merely put a few extra missiles in place, but many extra missiles, because they have to have assurance that they can destroy the targets, you will see, and our calculations are, and we would be happy at the secret level to provide those, are that we are cost effective at the margin, even at the high cost of today's estimate.

COST EFFECTIVENESS OF SDI

Senator JOHNSTON. Well, General, would you explain to me how many missiles you would have to destroy at $150 billion in order to be cost effective at the margin?

General ABRAHAMSON. Your fundamental basis—it is what they have to do in order to restore the effectiveness of the missiles that you would destroy, how far they have to go in order to be able to say, I now know that I can overcome this.

Because after all, we are trying to deter them on the other side.

Senator JOHNSTON. They just build more missiles.

General ABRAHAMSON. No, sir, they have to build so many more to get that level of assurance of the military planner that it is a much more complex problem than that. And we will be happy to show you the details.

Senator JOHNSTON. Could you just explain that to me? Why, if you can take out one warhead and they can build another one, why that is not a one for one trade?

General ABRAHAMSON. OK, let me tell you why. Today—and remember, what we are doing is we are projecting the costs ahead to a time that you might deploy such a system. Today they have nearly perfect assurance that they will destroy a hard target in the United States, one that is militarily important to them, by just putting in three warheads.

So it takes three warheads to have that assurance. We do not know what they actually target because we do not know the value they put on every one of their targets.

For a soft military target, such as an airfield or shipping docks or something of that kind, they have nearly perfect assurance that they will do it with only two warheads.

If you have several layers in place—and that is why I object and have objected so many times to this discussion and characterization of SDI as an Astrodome. But indeed, what it truly is, is layered defense. Then the Soviet planner has to go through and say: How many warheads do I have to have to equal that assurance?

And it is not two or three. It is many times that number in order to have that assurance. And therefore, the basis of your calculation I think is incorrect.

Senator JOHNSTON. Well, I do not follow that, unless you are saying that you could put your whole SDI or an inordinate percentage in a particular target. He would not know what particular target you are protecting. Thereby, if he wants to be sure then he has got to double up or triple up.

And by the same token, you do not know what target he is targeting, so you would have the same problem in your defense.

General ABRAHAMSON. Yes, and that is why we do not try to develop the command and control concept in such a way that it merely defends particular targets. In fact, the way we do that is we try to ensure that we are reactive to what the structure of the Soviet attack will be.

And in fact, that is one of the key elements, again, in our requirement, to react to the structure of the Soviet attack. And where we do not have enough weapons to destroy all of the systems, we decide, in order to enhance our deterrent posture, that we want to react to the ones that they think are the most important to be destroyed first, quickly, in that first oncoming wave of the attack.

Senator JOHNSTON. I think you and I agree on this thing. We are phrasing it differently, and I think it certainly leads to uncertainty on your part because you do not know what they are targeting and they do not know what you are defending.

General ABRAHAMSON. That is right.

Senator JOHNSTON. So I would suggest it is a one to one tradeoff. Maybe you would disagree with that.

COST REDUCTION IN SDI DEVELOPMENT

Let me ask you this. The DOD scaled back your request by $1.7 billion, did they?

General ABRAHAMSON. Yes.

Senator JOHNSTON. And the House scaled that back by another $1——

General ABRAHAMSON. Approximately $800 million, sir.

Senator JOHNSTON. By $800 million, back to last year's level.

If that were to be the action of Congress—and I know you would strongly disagree with that—would you restructure your program any way? Would it affect your time for making a decision, your deployment decision time frame, and if so, how would it affect the decision time frame and the way you would structure your program?

General ABRAHAMSON. Yes, sir.

Well, first of all, again let me talk about the sense of the Senate resolution. One of the problems in the program is that we were trying to each year recover some of the schedule that we lost in the previous year, and, therefore, our budget requests were high, and that as a philosophy appeared to have been rejected by the Congress, and they cut us back. And since those were legitimate budgets and legitimate plans were in place to take advantage of that, it introduced a tremendous amount of uncertainty, and more than uncertainty, it introduced great changes throughout our program.

So that instability has been a very difficult factor that we have had to deal with.

When, in the course of last year's budget, the Congress and the administration came to an agreement on what should be the fraction or the proportion of the Defense Department budget within the overall national scheme of priorities, that provided, I think, an element of stability, not very pleasant stability because it has cut so badly, and many programs, not merely SDI, are being cut. It provided a basis, then, for the Defense Department to say we have several very high and very important priority programs. But what should their proper share and what should their priority be within the budget?

So the Defense Department then took $1.7 billion out of the fiscal year 1989 request before we presented it to the Congress. And by the way, I think that is also consistent with the sense of the Senate resolution where they, Part B of that resolution indicated that although the program is strongly supported, it should be realistically budgeted, realistically budgeted within the overall framework of the Department of Defense budget.

BUDGET CUTS RESULT IN DELAY OF INITIAL DEPLOYMENT

So we have done that. Now, what that represents is, frankly, the absolute minimum that we can deal with, and we need more; there is just no question about it. So I have had to make very difficult cuts. What has the result of not only that cut in 1989 but the implications for that in the future budget now been? Well, it has been a delay of at least 1 year, maybe up to 2 years, in an initial kind of deployment.

So this is a long way of getting to the answer of your question. If there were an additional cut from what we requested, what we thought was an absolute minimum, and a responsible budget in the context of a responsible national allocation of priorities, it would have an additional very serious implication.

Senator JOHNSTON. You say a year or two. That is the cut of the House in the DOD request?

General ABRAHAMSON. No, no; the year or two cut is the implication or what will happen, we believe—remember, it is hard to predict how well and how badly research will go—it is our best judgment of how indeed not only the cut in 1988 but the outyear implications of that cut——

Senator JOHNSTON. OK, you are talking about the 1988 cut.

General ABRAHAMSON. Yes, sir, have affected us. So where previously I have said that I felt the national decision, we would have enough information not only about a first phase system——

Senator JOHNSTON. Let me interrupt, if I may.

The implications of the 1988 cut with the outyear implications are a year or two.

General ABRAHAMSON. A year or two.

Senator JOHNSTON. All right, now, what are the implications of the 1988 cut? How is your budget profile assumed to be consistent with the 1988 cut and the summit agreement?

General ABRAHAMSON. What we have, I believe that we have provided that at least in the report to the Congress and in the FYDP plan itself.

But essentially we took about $1.7 billion out of each year going out through the FYDP. That is consistent with what the 1988 cut was. That was a substantial cut.

Senator JOHNSTON. And that increase would be roughly a $1 billion increase a year?

General ABRAHAMSON. So that we have gone from fiscal year 1988 to 1989 from a $3.6 billion in the Department of Defense budget to the $4.5 billion.

And I should remember each of those other numbers, and maybe I can get somebody to help me here. But it goes out with a reasonable and proper build-up, a responsible build-up, not one where we are trying to recover the schedule as we have done in the past.

Senator JOHNSTON. I understand.

So I guess my question is what happens if——

General ABRAHAMSON. I think 1990 is $5.2 billion, sir.

Senator JOHNSTON. Excuse me?

General ABRAHAMSON. The $5.2 billion in fiscal year 1990. So you see, we go from $3.6 billion to $4.5 billion to $5.2 billion, and that is the kind of profile.

IMPLICATIONS OF HOUSE CUTS

Senator JOHNSTON. If instead of that you had the House action which cut, what was it, $800 million, if you had that kind of level funding, what would the implications of that be? And I know you have not precisely calculated it.

General ABRAHAMSON. Sir, it would be devastating, and let me just indicate that we are at a point in the program where we have teams in place and contracts in place that are absolutely clear, and they are effective. This year I have stretched those things, cut them back, terminated many, many contracts. I would probably have to go through and not merely just make additional adjustments, but I would probably have to go through in each of our major programs and many of our minor programs and prune out and terminate contracts.

Now, it is not just that you terminate the contract. What happens is the signal that the Congress would have sent to the entire Defense community and those teams that we are no longer as serious as we have been. We are no longer aiming at a realistic program to reach those kinds of objectives, and frankly, the secondary thing that would happen is we would lose many of the good people who have to this point been so effective that they have compensated at least partially for some of the congressional cuts.

RESULT OF ADDITIONAL DELAYS

Senator JOHNSTON. What would it mean in terms of initial operating capability—excuse me, of decision for production?

General ABRAHAMSON. I just cannot—I will have to provide that for the record, sir. It will clearly be an additional delay.

I believe that additional delay would also send a signal to the Soviets in the negotiations, and it would have—well, there are significant relationships here, and I think that that is one of the areas that many have failed to appreciate, and that is that SDI is not merely a technical program. It is a very highly intertwined re-examination of policy, a technical program, and then intertwined into that is an arms control strategy that is clearly a successful strategy, and the actions taken in the program will send a message to the Soviets, too, and that message is if they hold tight at the table and Congress then allows them to get their objectives, we would be in difficulty.

START TREATY

Senator JOHNSTON. You are talking about in the START treaty.

General ABRAHAMSON. So I think that there are many implications that have to be left out.

Senator JOHNSTON. And you are talking about the START treaty.

General ABRAHAMSON. No, I am—well, the START, all of the total efforts, I think, because the Soviets see this not only relative to the START treaty. I think that they understand, and in my discussion with Marshal Akhromeyev, it was very clear during the time of the summit when he was here, and in Secretary Carlucci's discussions, that what they see is SDI represents not merely a program to develop technologies for antiballistic missile systems, they do understand it represents a fundamental philosophic change, and that it represents a determined part——

SDI AS SALT TALKS BARGAINING CHIP

Senator JOHNSTON. Well, let me ask you, is SDI being discussed as a bargaining chip in SALT?

General ABRAHAMSON. It is not a bargaining chip. I think the President has made that very, very clear.

What we are doing is——

Senator JOHNSTON. Well, if not, is it the subject of bargaining or discussion in the START?

General ABRAHAMSON. It is a subject, but it is being discussed as what is a reasonable and responsible way to have a transition from exclusive reliance on offensive systems to something that would allow both sides, in a stable and predictable way, to move responsibly toward an arena where deterrence and protection is provided, not only by offensive systems, but increasingly, by defensive systems? That is not a bargaining chip, Senator.

Senator JOHNSTON. Well, if the amount of funding is having an effect on START, how is that occurring if it is not a bargaining chip or the subject of negotiations?

General ABRAHAMSON. I think it is the word, your discussion of bargaining chip. I think, frankly, the people who should answer that are the people from the State Department, but it is very clear that one reason, not the only reason, the Soviets are back at the table is because of SDI, and so long as we have a strong program and determination behind it, I believe that our bargaining and our ability to achieve these kinds of agreements is enhanced.

Senator JOHNSTON. Well, I am not really trying to argue with you on whether it should or should not be a bargaining chip, rather, whether it is, and if it is not——

General ABRAHAMSON. I think the President has said, sir, it is not a bargaining chip, and what I am objecting to is that appropriate discussions about how to make a transition and the leverage that that gives us is something other than a bargaining chip, and I think the President has said that many times.

Senator JOHNSTON. So it is bargaining but not a bargaining chip?

General ABRAHAMSON. No, sir, I think that a discussion of an appropriate way to transition and a reasonable way, and that is different than a bargaining chip. A bargaining chip, at least in my mind, is something you put on the table, and then once you pick it up, it is gone, and gone forever.

Senator JOHNSTON. Like Holmes used to say about the common law, it is a brooding omnipresence in the sky, or something. It sort of escapes me as to how it affects it if you do not talk about it, but maybe it does.

FIRST SDI DEPLOYMENT

Last year we were told that the first SDI deployment might begin in the mid-1990s.

General ABRAHAMSON. Yes.

Senator JOHNSTON. When do you now anticipate that Phase I might be deployed?

General ABRAHAMSON. We believe that the deployment could begin—and that is different than either an IOC in the classical military sense—that if the decision were made, perhaps, in the 1993 time frame, that 3 or 4 years later you would then be in a position to begin that deployment. And the key is when that national decision is made.

Senator JOHNSTON. All right.

General ABRAHAMSON. So all of our research program is aimed primarily at that national decision, sir.

Senator JOHNSTON. Do you have any concept of how long the difference between the initial deployment, say, launching your first BSTS, and your achieving of your IOC, however you define that, how long that period would be?

General ABRAHAMSON. Sure. That depends on two things. It depends on how successful our research is, which then will determine the price of those items in production, and the method of putting them in orbit, or each of those things, and if they are successful enough, then hopefully that will be an affordable cost for the Nation.

So the second element in that is what is the Nation willing and able to afford at that point in time once they are convinced that this is the right thing to do, that we have the right systems ready. So that is a matter of the budget.

Senator JOHNSTON. Right, but we know generally what a Phase I would consist of.

General ABRAHAMSON. Yes.

Senator JOHNSTON. And we know what our launch capability is or what it will be around 1994. We know it is not going to be dramatically changed, or if so, we know in what ways it will be changed. So you ought to have the parameters as to how long it just takes you, for example, to launch the stuff up in the air much less build it. What kind of——

General ABRAHAMSON. Sure. I think we are talking about three to four years of deployment, but again, that depends on the funding out there, and it depends on a whole series of things. It depends on whether or not we can proceed with an advanced launch system, and if we can't proceed with an advanced launch system, I am already pursuing other options that would allow us to proceed.

And by the way, they are fairly effective.

ADVANCES LAUNCH SYSTEM READINESS

Senator JOHNSTON. When could an advanced launch system be ready?

General ABRAHAMSON. It depends on whether or not you help the Senate understand that in fact the advanced launch system is a modular capability, that it is for more than SDI, and that if and when those early modules are ready, that it makes sense that some of that can be used. And by the way, I believe that you did and you can play a very important role in that, and I just would hope that I could convince you that the Nation's interest in an advanced launch system are worth more than what I believe was the basis for that negative vote last year.

Senator JOHNSTON. My role in the advanced launch system was because we were told that advanced launch system was not necessary for early deployment of SDI, that it was for other reasons, and pursuing the other reasons, it was our judgment that there was not a need for an advanced launch system, that, for example, the spy satellites and that sort of thing would not need to use an advanced launch system, you could wait for the more mature technology which would come in around the—no need, in effect, for an interim ALS, we could wait for the later ALS, which would be ready around the turn of the century.

And I was assured repeatedly that it was not for deployment of SDI.

General ABRAHAMSON. No, I think that at least so that there is not a misunderstanding, at least what I said—and I cannot be responsible for what others might have said—is that we could initiate a deployment of the space-based elements of an SDI with existing systems or variations on existing systems so that you could start. However, the cost effectiveness of being able to put all of those elements up, because it is a huge launch burden that the Nation would have, that that could clearly be enhanced by an advanced launch system, and that is still what I think is the proper perspective.

I think that there is an additional perspective, and here we may have had a very serious failure in communication, sir, and that is that the advanced launch system, the way we are approaching that program, just like the way we are approaching SDI, is we are conducting research into the areas that would allow us to have very substantial cost reduction and improved reliability.

Now, we are trying to do that in such a way that even though we are aiming at an advanced launch system as a family of missiles, in a sense, by a family I mean a modular missile system that you can have a smaller version and a larger version, that there will be benefits from the research that would precede that, precede it very substantially, and we are trying to conduct the program that way.

Senator JOHNSTON. I understand that.

General ABRAHAMSON. So one of the advantages of releasing the program from the kind of limit that was placed last year is that when one of those modules is ready or one of those technologies is ready, that might be available to meet some of the Nation's needs, SDI or not. And therefore, I urge you to re-examine that position, Senator.

Senator JOHNSTON. We will continually do that.

General, you say, did I understand you to say that if all goes well, 1994 is sort of the decision point?

General ABRAHAMSON. I believe that it is 1993 or 1994, and perhaps——

Senator JOHNSTON. 1993 or 1994?

General ABRAHAMSON. Somewhere in that time frame. And let me try to illustrate why.

Senator JOHNSTON. Well, let me ask you a question about that, if I may.

TESTS DETERMINING DECISION TO DEPLOY IN 1993-1994

What tests would be required in order to make a decision to deploy in the 1993–1994 time frame? Really, could we do it within a strict interpretation of the treaty, or do we have to have tests that go beyond that in order to meet that time frame?

General ABRAHAMSON. Well, okay, let me answer the last part of the question since that is what you are aiming at, but I would like to illustrate it, then, with some things that are a little broader, and I cannot use many examples in the open testimony, but I can give you at least one example that I think will be effective.

I believe we can get to a point so that a responsible national decision can be made, and we have tried to lay out the program that way, and the President's clear guidance and policy has been and remains to conduct the program within the narrow interpretation of the treaty. When you get out to a point of a national decision, the real question then comes how much information will be available to, first of all, responsible military managers and the administration at that time, and then you in the Congress, so that you can make that decision and make it well.

Senator JOHNSTON. All right, but my question is, though, can you make that decision? Do you have enough?

General ABRAHAMSON. Now, the answer is we can get to a minimum level of confidence or a reasonable level of confidence, but it is going to be very hard for everyone to understand. For example, we will tie together many of the individual test results in a national simulation, and the results of that will be available. However, it is not the same as having a full system do some kind of prototype operation, and as soon as you say prototype or get close to an element that is prohibited by the treaty, then we can no longer stay under the narrow interpretation.

Senator JOHNSTON. Well, I think every report to the Congress has said that we can have a high confidence on tests within the treaty.

General ABRAHAMSON. Yes, sir.

Senator JOHNSTON. Is this a change from that?

General ABRAHAMSON. No, it is not. In fact, if you will read carefully what I said in our report to the President and the report to Congress last year, we did not modify that. What we did say is that you can get higher confidence earlier, you can get it less expensively, and fortunately for our relationship to the Russians and the treaty negotiations, you can stay within the treaty a longer period of time.

Now, it is the policy that we are not going to pursue that now, and I believe that it has not changed.

TESTING WITHIN TREATY LIMITS

Senator JOHNSTON. Well, before the 1993–1994 time frame, can we have high confidence with tests within the treaty?

General ABRAHAMSON. Yes, sir, I think that we can, but it will be difficult for you to understand, and I will have to show you what that means. I would like to show you——

Senator JOHNSTON. Well, I can understand, yes.

General ABRAHAMSON. Okay. I do not mean you as an individual. I mean all of us, frankly.

Let me give you an example of that.

Senator JOHNSTON. If we were willing to break out of the treaty, how much more quickly could we get it? And we are talking narrow interpretation of the treaty, or strict interpretation.

General ABRAHAMSON. Yes, sir, yes, sir.

Senator JOHNSTON. High confidence, 1993–1994 time frame.

General ABRAHAMSON. Well, last year what we said was we thought we could advance the decision date a year or two, that we could save perhaps $3 billion in the research phase, and those were rough estimates, difficult estimates, frankly.

Senator JOHNSTON. Right. Would that still be valid?

General ABRAHAMSON. No. I think that each year that goes by, it probably is a little less.

By the way, we have got clever people out there. And I would hope that you all understand that when we are operating within the narrow interpretation of the treaty, we are doing our very best to get the maximum information in any one test. And we are finding ways to do that. So within the policy limits laid out by the President, with these clever people, we are finding ways to get that information.

So I think we will still be able to do that. That does not change the conclusions that we had earlier, but nonetheless, we are embarked on that kind of a program, and we are dedicated to it, and I would like you to understand that.

TESTING OF BAMBI-TYPE SYSTEM

Senator JOHNSTON. Now, there is still another question which, according to your written answers—and I appreciate your providing those written answers—I asked the question of whether the testing of a Bambi-type system would, whether it is your view that that would violate the treaty——

General ABRAHAMSON. And I said no.

Senator JOHNSTON. And you said that is still under legal and technical study.

Am I correct on that?

General ABRAHAMSON. No, sir. We had, last year we were working on a test concept in order to get to a point that we could test it under the narrow interpretation of the treaty, and you cannot get all of the information, but you can get a substantial amount, enough that you can make a judgment that yes, the concept is valid and the concept will work.

Senator JOHNSTON. Well, I have gotten a letter, let me say, from the Secretary of Defense dated 29 March that states the technical and legal analysis from which the President will make his determination on whether kinetic energy devices in the SDI program are based on other physical principles is not yet complete.

General ABRAHAMSON. That is correct.

Senator JOHNSTON. The care with which we have examined the place of kinetic energy systems in the ABM treaty is an indication of the seriousness with which we view this Nation's international legal obligations.

What he means and what my question meant was that it is an unresolved question as to whether you can test kinetic kill vehicles in space or what I call a Bambi-type system within the treaty. That is an unresolved question, is it not?

General ABRAHAMSON. No, no longer, in this sense. I now have a decision from the compliance committee—and this I think is very key—that would allow us to get a substantial amount of the information. And that is the result of this process that I have been talking about.

Under the policy guidance, we keep working to try and get as much information as we can from various tests. And we now have approval to test it in a non-ABM mode, fired from the ground.

It is not a prototype, but we can understand sufficiently what goes on by firing out of Kwajalein. By the way, you could do it at another missile test range if it were safe and your limits were such.

Senator JOHNSTON. Without going into this particular test—I mean, I do not want to get involved in the technicalities of this particular test. My question is, is your high confidence in a deployment decision in the 1993-94 time frame depend upon the resolution of that question by the Secretary of Defense or by the President?

General ABRAHAMSON. No, sir. I think we can get to a high confidence level. It will be difficult.

Senator JOHNSTON. And you can do that without doing the kinds of tests that, when Nitze said in his letter in 1977 that he thought the treaty prohibited a Bambi-type test—you can do your testing to make your decision with a high confidence, consistent with what Nitze said and consistent without the Secretary of Defense resolving the question referred to in the letter?

General ABRAHAMSON. I would say it is hard. We will not get as much confidence as everyone might like, but I believe we can get sufficient to make a decision by doing these kinds of tests, which will not violate that.

That does not take away the desirability and, if the Nation were to make a policy judgment that you could, then obviously we would be in a better position. We could go faster and have more confidence. But nonetheless, I think that we can get to a point that a responsible decision can be made.

Senator JOHNSTON. Senator Leahy.

Senator LEAHY. Thank you very much.

ENORMOUS IMPLICATIONS OF SDI PROGRAM

Mr. Chairman, I cannot think of any issue more important to this subcommittee than what we do about the "Star Wars" program. It has enormous implications for arms control, as we all know. It certainly has enormous implications for the budget deficit, and those are probably the two most critical issues facing the Congress and the American people today.

I think we all remember President Reagan's speech about 5 years ago almost exactly, when he announced his plan to build the "peace shield" that was going to make nuclear weapons useless and obsolete.

I remember those TV simulations, which I think almost convinced a lot of people we actually had all of this. They showed the fragile planet Earth covered with this protective umbrella, and there were death rays zapping Soviet missiles aimed at our cities and our towns. It was as though George Lucas had taken a segment out of the Star Wars movie and put it up there in space.

But let us review the record of the past hearings when the administration asked us for huge increases in the "Star Wars" budget. I remember arguing that, whatever the President may have thought about the peace shield, tough-minded scientists and military experts and their friends in Congress had no intention of trying to put ray guns in space in our lifetime.

But they did not openly say so. For them, SDI was a golden opportunity to get the billions of dollars they needed to build a system to defend U.S. missile silos, submarine bases, and bomber airfields.

And I understand, General, your statement earlier today. But I think in some ways the play acting by many is over with this year's submission. It is crystal clear that phase one of SDI is going to defend only selected military targets, like missile silos.

I read in the press that if it works it will destroy no more than about a third of incoming warheads from an all-out Soviet missile attack. Well, that means 3,000 to 4,000 Soviet warheads get through.

Now, I do not care if all those 4,000 Soviet warheads are aimed at military targets. Military targets are near our cities and towns, and millions of Americans are going to die in this "successful disruption" of a Soviet attack.

CONCERNS ABOUT SDI PROGRAM

Now, Mr. Chairman, there is a lot about SDI that worries me, and I have detailed specific concerns in both this subcommittee and on the floor. But I am worried about the cynicism I have seen ever since 1983 about the SDI. The administration from top to bottom has gone on and on about how this is going to render ballistic missiles obsolete, was going to make deep cuts in nuclear weapons a reality, was going to end the era of nuclear deterrence, and was going to take us into the age of mutual defense.

But now they are saying it is not to make nuclear missiles obsolete; it is designed to protect them.

EFFECT OF SDI ON ARMS CONTROL

Now, General, I suspect you may well disagree with that. But tell me, how is deployment of this partial defensive system for our missile silos and other military targets—what does that do to help the goals of arms control?

General ABRAHAMSON. First of all, in my testimony earlier, Senator, I discussed that particular issue and I discussed particularly that article and that mistaken notion. I think it is not only misleading, but deliberately misleading, characterization of what we are doing and where we are going.

And I find that a terrible——

Senator LEAHY. I think what you said was it is sort of a first step on the way toward a national or nationwide defense.

General ABRAHAMSON. I did not say "forced step"; I said, "first step."

Senator LEAHY. I said "first step."

General ABRAHAMSON. I am sorry.

Senator LEAHY. It is a first step. Well, okay, let us assume it is a first step. And how many years are we talking about just defending the military targets?

General ABRAHAMSON. The second thing I said is that it is not intended to defend the military targets. And in fact, frankly, I am worried about cynicism, too, Senator, and I am worried about the cynicism behind the kind of comments that lead you to believe that that is the fundamental impression and feelings of the people in the Department of Defense.

Senator LEAHY. Well, tell me specifically what that first step does?

General ABRAHAMSON. OK. That first step is a reaction to a very carefully considered requirement laid out by the highest level of responsible military thinkers in the country, the Joint Chiefs of Staff. That first step is the first step in building towards the President's long term goal.

And what they carefully considered was, how can they enhance deterrence by a combination of reducing our offensive forces and increasing our deterrent capability by having a partially defensive system in place.

Senator LEAHY. What does the first step protect?

General ABRAHAMSON. The first step——

Senator LEAHY. Aside from policy considerations, just in nuts and bolts, what does the first step protect?

General ABRAHAMSON. The fundamentals of your question suggest the kind of thinking that goes back to what we were doing——

Senator LEAHY. General, my question is very straightforward. What does the first step protect?

General ABRAHAMSON. The first step is designed to react to whatever the Soviets want to destroy.

Senator LEAHY. So if the Soviets decided that they wanted to destroy submarines in Scotland, it is not designed to protect that?

General ABRAHAMSON. Yes.

Senator LEAHY. It would?

General ABRAHAMSON. If they were to attack in their leading edge of their attack a military target anywhere in the world, that is the importance of having the space-based element there. We would attempt through this first phase system to destroy the missile in the boost phase as quickly as it starts out.

It would not be enough to destroy all of them, because we do not want to in fact put enough of those systems in place and rely only on those systems to do the total job. And the reason is there is a serendipity between the advance systems that you talk about—and by the way, we did not create those particular kinds of cartoons you saw. This is a serious program on our part, sir, and you should not judge the seriousness nor the depth of the research or what is going on by what you see on the television.

Senator LEAHY. I was just referring to the ones the President used. I assume somebody in the government designed those. Probably not.

General ABRAHAMSON. No, we did not in fact, and it was not what the President used. The President has talked about it in speeches.

Now, the fundamental philosophy is that you want several different kinds of systems when they are available to be able to destroy the Soviet missile force so effectively that they will choose not to strike. And that is how you make nuclear-armed ballistic missiles impotent and obsolete.

SITUATIONS DEFENDED IN FIRST PHASE

Senator LEAHY. Well, let me go back again to my first question. The first phase defends what? Everything, is that what you are saying? Everything from Los Angeles to a submarine sited up in northern Scotland?

General ABRAHAMSON. The first phase—and that is why I indicated we are not going to put missiles around what we want to defend. That is not what the first phase is about and that is not what SDI is about. That is going back to 1972 and the old-fashioned idea of terminal defense.

What we are trying to put in place is a layered defense. The first phase of that layer, in fact, the space-based layer goes after the missiles, wherever they come from and wherever they are going.

And therefore your question is, I think, prompted by a misunderstanding. And I have to say I am sorry that we have not gotten that across. But the layered defense concept is designed to react to the structure of the Soviet attack.

If they think it is important to destroy a submarine base, then the best way we can deter them is to show them a system that will react to that. If they think that the best thing is to destroy Los Angeles, then we want to be able to react to that.

Senator LEAHY. And taking that first step, if they want to do both, what do they do? Just simply send more warheads and overwhelm it?

General ABRAHAMSON. Well, eventually we would get to the point, hopefully, that we would be able to counter in a very effective, what we have called thoroughly robust, way whatever they might do.

Senator LEAHY. How long is that?

General ABRAHAMSON. I do not know. It depends on how much money you provide.

Senator LEAHY. Assuming there is no restriction on money, how long would that be?

General ABRAHAMSON. I believe that phase one is some time in the latter half of the 1990's. And by the way, that is not terribly different than what I have said in the past. And that phase two and follow-on systems will be coming along at 3- or 4-year increments behind that.

SOVIET REACTION TO SDI DEPLOYMENT

Senator LEAHY. Well, would it not be in the Soviets' interest then during that time, as they see these going in, not to negotiate cuts in the number of warheads they have, but rather to increase the numbers, with the intention of overwhelming the system?

I mean, if I was the head of the Soviet military planning I would look at that and say, just in case that thing does work, if we want to have a counter and be able to threaten the United States for whatever geopolitical reasons we want or ultimately military purposes, then let us overwhelm it and do not cut our warheads at all.

General ABRAHAMSON. Well, that is what the Soviets say. You are repeating exactly what they say, because what I think they are trying to do is find the cheapest way to counter SDI. And that is to help ourselves talk ourselves out of it.

However, the reality of your question——

Senator LEAHY. No, no. General, you are going way beyond what my question is. What is wrong with the logic of that? I mean, you are the military expert. What is wrong with the logic of just increasing more?

I mean, it is easy enough to put yourself in the same position. If they were building this and you were handling the nuclear component on this end, why would you not just logically increase more?

General ABRAHAMSON. Well, it is the same logic that says, when the cavalry was faced with machine guns, we ought to go build more of those.

LAYERED DEFENSE

Let me give you the specific answer, sir. The specific answer is in the layered defense. And the layered defense concept, it would not be that they could just build a few more missiles or even an affordable level of missiles. They would be faced with a probability problem that is so significant, such a problem for them, that that is an unreasonable direction to go.

Senator LEAHY. Being in a world of MIRV'ed missiles, what is the probability factor that deters them? That they can only get through 20 percent?

General ABRAHAMSON. I am not sure we know that, sir.

Senator LEAHY. Are you saying that as you envision SDI it would be 100 percent effective?

General ABRAHAMSON. The President has said let us aim for something that is thoroughly reliable. Now, I have said in speeches across this country and in testimony that there is nothing that is perfect, there is nothing that is perfect anywhere.

Nonetheless, I think that we can strive in a step by step research program to be able to have the means to have something that will be very effective.

I can tell you as a practical military man on the other side, a responsible military man on the other side, if I could only get a very small percentage of the missiles through and I could not know that they would get the targets that I think are absolutely necessary, my reaction if somebody said, even in a crisis, that we ought to strike, would be do not do it.

Senator LEAHY. Would it be fair to say, General, if you were that military planner on the other side, that the U.S. defense becomes more effective in direct ratio to the extent that the Soviets would cut down the number of their warheads and less effective in a ratio to the extent that they increase the number of warheads?

General ABRAHAMSON. That is true.

MISSILE REDUCTION TALKS

Senator LEAHY. And if that thinking prevails, does that not bode poorly for the President's plans that talk about significant reductions in warheads when he goes to Moscow in May?

General ABRAHAMSON. Sir, I think it is just the opposite, and I think the evidence is that ever since the ABM Treaty, when we signed that treaty and started out on the idea that if we laid ourselves naked and do not challenge their missiles then they will stop, we have tried to negotiate some kind of a limit.

And we have never been effective. In fact, we were not effective until SDI has been in place, has been supported by not merely the President, but by both parties and by the Congress and by the people.

And the real evidence is that we are now achieving, by using a position of negotiating from strength, exactly the things we could not achieve before. So I think the evidence is exactly opposite.

Senator LEAHY. General, my time is up. But I remember well the testimony when I first came to the Senate about the ABM system in North Dakota. I was on the Armed Services Committee at that time. They told me, because it is not working all that well, that they were going to keep it open only from 9:00 to 5:00, Monday through Fridays.

I suggested that we notify the Soviets not to attack except during those hours, and of course give them a worldwide clock so it would make a difference when the time changed between Moscow and North Dakota.

I just question how much that led them to eliminate anything.

I appreciate your being here, General.

Chairman STENNIS. Let me direct this to Senator Johnston of Louisiana. We have met here this morning and every member here was anxious that we proceed with these hearings. At the same time, we were advised that important matters were pending on the floor and wanted to proceed to have the leadership arrange, as we understood, to get some of it disposed of, and that we were in favor of that.

And we joined in and it has worked out fine. I have asked the Senator from Louisiana, Senator Johnston, to really do the presiding in this matter. I wanted to be free to be in here and come and go as I might see fit. He does an excellent job in this field, if I may observe to him now.

If he could invoke by mere request, I think, some kind of a time control.

Senator JOHNSTON. I think the Chairman is correct.

General ABRAHAMSON. I am just here, and if I may I would like to sit over there and let the Chairman sit here and we can work together.

Senator STEVENS. I am happy to yield to my good friend.

Senator JOHNSTON. Thank you very much.

Chairman STENNIS. You proceed in your own way, please.

Senator JOHNSTON. If it is agreeable with the Chairman and with our two members, would a 10-minute time limit be suitable? Senator Stevens?

Senator STEVENS. Senator McClure has just one question. I would be happy to yield some of my time to him.

Senator MCCLURE. I thank the Senator for yielding, and I do that only because I have some folks waiting for me in my office. I appreciate that.

SOVIET PULL-OUT OF ABM TREATY

General, there have been reports recently that the Soviets may be on the verge of breaking out of the ABM treaty. Obviously, there are limitations on what you can say about that subject in this setting, but would you please give us your general impressions of what the Soviet SDI capability is, what the breakout potential is, what that might mean to us, and what it implies for our SDI efforts?

General ABRAHAMSON. Sir, the details of that should be reported in a classified session by the intelligence community. I think the important thing—and we have tried to say this publicly for a long period—is that the Soviets have had a very active program, and you are aware of that and I know many are.

They have maintained the only operational ABM system and they have kept it going. As near as we can tell, they have research programs in nearly every one of the areas that we have.

And it is very difficult to estimate how much money they have spent and in some how much progress they have had. In some, they are clearly ahead of us. Ground-based lasers is an example of the advanced technologies where they are clearly ahead of us, and I am concerned about that.

What their intentions are are very, very difficult to deal with. But the potential of moving ahead, the infrastructure that they are putting in place, is very real, such things that are often not associated with an

ABM system, such as the Soviet Intergia spacecraft—I mean launch booster.

That huge booster, that gives them the ability to quite quickly be able to implement some very substantial space-based experiments and then, beyond that, even have the capacity to implement whatever they decided was practical. So therefore, when you look at what they are doing, you must look in the whole broad area, including their launch capability and their fundamental science.

We think that they have—when they get their radars operational, that they will be in a position so that there are several avenues that they could undertake perhaps more quickly than we could. And that is dangerous. It may not be exactly the same kind.

We are not saying that that is what their intention is. We do not know that. I do not know that. No one can tell intention. But they are building the capability and the potential to move aggressively.

I think we have other advantages in our favor. I think many of our technologies are the kind that have a very, very effective system in the long run, that we have the fundamental advantages in our computer capability and in those areas.

But I think the potential is there on their part.

Senator McClure. I realize we are very much hampered by the forum in which we are conducting the discussion. And yet, the American public needs to have some understanding of the risk that is involved. I look at what they are doing in their research and development programs, the various things that they have done over the last several years during periods of time when we were doing virtually nothing with respect to an ABM system.

SOVIET VIOLATIONS OF ABM TREATY

I look at what is an absolutely clear violation of the ABM treaty in the location of the Krasnoyarsk radar. I look at what they are doing in other areas of their country and other areas of technology with respect to their radar systems, which are both battle management and ABM-related. Those are perhaps redundant terms.

But if they are in a position to make a breakout at some point, and if our research and development is going along at the same pace as theirs while they already have a lead, then if breakout did occur they would have a significant time advantage.

The only way we erase the time advantage is to proceed more rapidly than they do in order to catch up with what they have so patently already been working on. And if indeed they were to break out with a competent system, and it would take us years yet before we could match that system, would that not have very grave consequences to the military balance?

General Abrahamson. I think you have said it absolutely eloquently, sir. Yes, there is just no question about it. I opened the testimony by pointing out that in World War II the Germans chose a revenge weapon, the V-2, and that they built over 5,000 of them and fired nearly 2,500 of them. The outcome of the war could have been substantially different had they chosen defensive systems rather than just trying to revenge and attack London.

Senator McClure. Thank you very much.

Senator Stevens. Mr. Chairman, I have just been notified we are going to take up the Contra bill at quarter of, and I am supposed to manage that bill.

BALLISTIC MISSILE DEFENSE OPTIONS

But I would just like to ask you one thing, General. Last year I worked together with Senators Proxmire and Johnston and others and we developed support in the continuing resolution, bipartisan overwhelming support, for a vigorous expanded research program for the development of ballistic missile defense options.

Now, I had the impression and I still believe that that unified support of the country behind the whole concept of long-range SDI research is very important. I do not really see that is reflected in your program now. It looks like we are into more short range options than long term objectives for a strategic defense system. Am I right?

General Abrahamson. No, sir, I do not believe so. I felt that the resolution that was developed last year was very helpful. I recognize that it represented a bipartisan support for the overall program.

And earlier in my testimony, I presented how I felt the fraction of the budget is laid out. And the budget is laid out, if you put it in these kinds of three categories—it is hard to see sometimes, but the budget is laid out with about 14 percent that is dedicated to the systems which would be exclusively used in phase one, but would not become obsolete. They would be carried into a later phase, follow-on kinds of systems.

But about half of the total budget is the long term research, which would be the more exotic or some of the advanced concepts. And that—and here is where I think the confusion may lay, sir, that you need sensor systems, you need battle management and control, you need all of those for both near and far term; and that yellow or 36 percent is there.

KINETIC ENERGY RESEARCH

Why do we not take the 1989 budget pie. If you would like to look at it in another way, you can see that I am still funding more in directed energy than I am in kinetic energy. And even the amounts in kinetic energy should not be considered to be only near term.

The vast majority of it is systems like the space-based interceptor or the ERIS. But there are some very important long term efforts, such as the electromagnetic rail guns, which can and will be options in the future.

Senator Stevens. I would urge—I think, as we are finishing this election year, we will have the decision of our people this fall. But we are going to have a change in the executive position of our country, in any event. And I think we are better off to have a commitment to long range programs and maintain that momentum rather than getting at odds over short range programs.

I am happy to hear you say you do not think it exists. There is an impression up here that it does exist.

General ABRAHAMSON. I know, sir, and that is unfortunate.

Senator STEVENS. I am sorry I have got to leave, but I would like to work with you again and reaffirm that and keep reaffirming the commitment of our country to the SDI. I thought that resolution was helpful at that time.

And we have another summit coming up. I think we ought not to be fractionated before the summit.

Thank you, Mr. Chairman.

Senator JOHNSTON. I appreciate your coming over here.

Senator STEVENS. Just for the information of the members, the Senator said he hoped there would be a vote today.

Senator JOHNSTON. General, just one more question. I want to be sure that the impression was not left that the Soviets could deploy something like a phase one SDI system sooner than we. The fact of the matter is, for a system that would involve elements which we conceive of in phase one of an SDI, we are way ahead in terms of time, are we not, when you consider the battle management computers, the sensors, those things, in a total system?

We are way ahead and there is no doubt about that, is there?

General ABRAHAMSON. I believe that for a system that would have a boost phase early layered concept, that the answer—I do not know this—is probably yes. I do not believe the Soviets would respond always in the way we do, and if they chose to just replicate the systems that they have now, that are operational around Moscow, and spread those more broadly and to utilize the radar system that they are putting in place, that in that kind of response, which is a layered defense, but not layered to reach out as far as ours——

Senator JOHNSTON. The ground-based we are talking about?

General ABRAHAMSON. Yes, sir.

That they may well have the potential of reacting more quickly than we. Now, the danger to that is this. Our whole deterrent posture is based on a credible second strike capability. And if they are clearly—if it is only a partial system on their part and it is effective enough, however, to respond and destroy a substantial amount of the effectiveness of a ragged second strike that we might be able to return, then it has a very serious consequence for our deterrent posture.

Senator JOHNSTON. Right.

JOINT U.S./SOVIET USE OF SDI SYSTEM

General, one final question. I think it was in the President's March 1983 speech, in one of the President's speeches or statements on SDI, he said of course we could not have an SDI without the Soviets having one, or words to that effect, because it would greatly enhance the first strike capability and would upset the Soviet Union if they had that.

And I think that was the same speech in which he said, so therefore we will give them our technology when it is developed.

You continue to adhere to that statement of the President, do you not? In other words, for us to have an SDI and for them not to have one would be destabilizing?

General ABRAHAMSON. Well, I think the importance is that the two nations might use a strategic defense in a very different way. Nonetheless, I think it is important that we consider their fears, their concerns, and that is why in the negotiations we have opened up—and this goes back to our earlier discussion—a very sincere effort to define this transition period and how we can do that and how they can do that in a stable way.

And here is where a strong SDI program on our part does give us leverage, as opposed to a bargaining chip kind of position.

Senator JOHNSTON. But what the President said was that it would be destabilizing for one side or the other to have it and the other not to have it. That continues to be true, doesn't it?

General ABRAHAMSON. Well, I think if it were a very substantially effective, all the way to the very high level, I believe—I am not sure we have thought that through as carefully as we should.

I think the important thing is the level of the phase one that people have talked about, we think that it enhances stability. And we would hope that the Russians would in fact shift from the offensive systems toward defense and enhance the stability.

Senator JOHNSTON. Well, phase one, it would be good only for either interfering with the timing of the Soviets' first strike or in defense of a ragged second response, as you point out. And to defend against a ragged response means it is a first strike enhancer, which is why I think the President was saying that it would be destabilizing to have one side have it and the other side not.

First of all, the President did say that, did he not?

General ABRAHAMSON. I believe that he did recognize that our deterrent theory is really not very good and that it is possible—at least what I read from his statement is that there is a valid concern that should be investigated about this issue of stability and what that means to the other side.

And by the way, since the whole of deterrent theory is really a psychological theory and frankly is quite imprecise, because it is precisely that, no one knows what is clearly going on in the mind of a Soviet war planner nor in the mind of the Soviet political leadership.

And even if we could know perfectly on a day when there is not any serious crisis, it may change dramatically under a real crisis.

Senator JOHNSTON. Well, we think we know what is going on in the President's mind, because he has stated it on more than one occasion. And he says that one side or the other to have an SDI without the other having it is destabilizing.

General ABRAHAMSON. In the conversation with Velikov, he argued with me that if one side had a perfect system and the other side had none, that it would in fact allow the side with the perfect system to sit back and consider and without consequences carry out a strike.

Now, I believe that that kind of construction of a theoretical situation is not what we are talking about in the realism of going ahead. And the way you work on that is you try to define a transition period.

Senator JOHNSTON. I am just getting at what the President said and what he meant. In your view, what the President said is that a less than perfect system is not destabilizing?

General ABRAHAMSON. No, I did not say that. I think the President outlined a very clear deficiency in our certainty of deterrent theory and recognized that there is a fear or could be a fear on the other side, and that is why—at what level that is, I do not know. And at what level that begins to operate, I do not know.

Senator JOHNSTON. Well then, how would we deal with this question? If it is, would we not only have to give them not only the technology, but help with the production base, so that they could have a simultaneous deployment of the same thing?

And if not, why not?

General ABRAHAMSON. Well, I think that if they understand where we are going, if they have some confidence and some predictability in that process, if we can come to a negotiated phasing of this transition from offensive only to clearly it will be a mixture for a while, and then as both sides gain confidence in that I very sincerely and honestly believe that they will begin to recognize that the characteristics of that kind of deterrence are vastly superior to the other side.

So the key is to do this in a cooperative or coordinated way.

Senator JOHNSTON. But the key is that both must have the same capability at approximately the same time?

General ABRAHAMSON. I am not at all convinced that the Soviets would want in their system an equivalent. I believe that, you know, they have their own ideas of how to build these things and how to do these kinds of things. And therefore I believe they would build on what they have done in the technology they feel comfortable with, and that we would build on what we can do.

Senator JOHNSTON. Well, Gorbachev actually says that they would not deploy an SDI, but that they would have, I think he says, an appropriate response, which I took to mean more warheads, an asymmetric level of warheads.

That certainly would not be the desired result.

General ABRAHAMSON. I personally do not extrapolate his statement to say it would be more warheads. I believe that he also said, and perhaps the most important statement is, that he admitted publicly for the first time that they are working in all of the areas that we are in our program.

Senator JOHNSTON. I recall that.

Would it be a safer world if, instead of both sides facing one another with roughly 10,000 strategic warheads, that we had both sides with 5,000 strategic warheads and an equivalent SDI on both sides?

General ABRAHAMSON. I believe it would. I am not sure that 5,000 is the right number or that in fact it should be warheads only.

I think that what we need to be working toward is that we need to reduce weapons. I think we need to reduce weapons, because if we reduce offensive weapons, the kind that can destroy our civilization on both sides, that the danger that they would ever be used is reduced.

But it cannot be done irresponsibly and it cannot be done naively. And it has to be done in a coordinated way.

Now, this asymmetry question—their airplanes do not always look like ours, but they make a judgment that they want a certain capability and that is their best military judgment. And it is colored by not only what they can do, but what they want to do.

So symmetry in general at the gross level is probably useful. Symmetry in the specifics of each of the systems that might be developed on both sides I think is probably more than one would ask for or than is reasonable.

SUBMITTED QUESTIONS

Senator JOHNSTON. General Abrahamson, we have some questions in writing, not only from me but from Senator Stennis, Senator Byrd, and Senator McClure.

[The following questions were not asked at the hearing, but were submitted to the Organization for response subsequent to the hearing:]

QUESTIONS SUBMITTED BY CHAIRMAN STENNIS

QUESTION: General Abrahamson, the budget summit agreement between the President and Congress has required the Pentagon to reduce its fiscal 1989 budget request by some $30 billion, including $1.7 billion cut from SDI's request. Defense Secretary Carlucci expects that another $175-$300 billion will have to be cut from the fiscal 1990-94 defense spending plan now being formulated.

Since SDI's previous technology development and phased deployment plans were based on the much higher budget levels projected before the budget summit, will there be even further delays in SDI's technological progress, and in its key decision dates, under the new five year defense spending plan under consideration?

ANSWER: The funding level for the DOD portion of the SDI program submitted with the current, amended FY89 request is $4.55B (down from last year's estimated FY 89 budget of $6.3B). For the outyears, the projected SDI funding levels are still being reviewed within DOD. However, early estimates forecast a reduction from previous projections in outyear funding levels which would be consistent with the reduction applied in the amended FY89 budget request. These reductions have resulted in a major restructuring of the entire SDI research program. The effect of this restructuring is a delay of 1-2 years from previous estimates of when we could expect to be able to make an informed decision on development of a strategic defense.

QUESTION: General Abrahamson, a Defense Science Board panel last August concluded that much progress has been made in the SDI program but that much remained undone, such as, much more system design, solution of several significant technology problems (including survivability of the space-based interceptor carrier satellites), and much better cost estimating. In each case, what have you done to address and resolve the issues raised by the DSB panel? Please provide a more detailed listing of such activities for the record.

ANSWER: System element designs are being refined to attain the best balance between technical feasibility, system effectiveness, survivability and cost. In response to the Defense Science Board's recommendations we have formed a Phase One Engineering Team (POET) and are in the process of contracting for Phase One Systems Engineering and Integration (SE&I). These resources will be devoted to improving performance, survivability and cost of the Phase I architecture and elements.

Technology development is key to systems which are to be capable against a threat that is also incorporating new technology. The Defense Science Board recommendations to SDIO have been incorporated into the technology development program. Survivability measures (maneuver, hardening, shielding, proliferation, decoying, antisimulation, electronic countermeasures and shootback) required are somewhat beyond the state of the art but are attainable in the future. We have fabricated and tested critical components and computer simulations of the synergistic effects of combinations of survivability measures have shown impressive results.

Our capabilities to estimate costs is constantly improving. Data from a number of historical programs has been used to establish cost estimating relationships for infrared sensors, interceptor missiles, satellites, etc. We have established specific cost models for all SDS Phase I cost elements. Cost estimates were reviewed by the OSD Cost Analysis Improvement Group (CAIG) in June 1987. Revised estimates are currently being developed. We are studying operational technology, manufacturing practices, procurement regulations and requirements, and a variety of other acquisition factors to identify opportunities to increase efficiency.

QUESTION: General Abrahamson, the DSB panel recommended that the requirements process should be broadened to include an analysis of the desirability of SDI deployment including consideration of the conditions existing if both the U.S. and U.S.S.R. have equivalent SDI systems. The DSB panel said this question might be posed as follows: If the U.S. has a choice between (1) no further ballistic missile defense deployment on either side, or (2) a U.S. ballistic missile defense system meeting JCS requirements, plus an equivalent Soviet system, which of these two alternatives more effectively enhances U.S. security?

Has such an analysis been done as recommended by the DSB panel, which said a "satisfactory" analysis had not yet been done, and if not, why not?

ANSWER: Implications of the deployment of strategic defenses by both the US and the Soviet Union was addressed preliminarily by the Future Security Strategy Study. This study was submitted to the President in October 1983. Other studies have been conducted since that time. The JCS addressed the issue in their assessment of requirements for an initial phase of a strategic defense system. We continue to address the issue of two-sided defenses and intend to have a more comprehensive analysis later this year. Previous results clearly indicate a situation where the Soviet war planner is much less confident of achieving his aims, and that decreased confidence results in increased deterrence and more security for the US. I would add that the Soviet commitment to strategic defense antedates SDI, is much more extensive than SDI, and includes today deployment of operational strategic defenses. This commitment will continue regardless of U.S. actions with SDI.

QUESTION: General Abrahamson, were the six key, SDI Phase One systems approved for Demonstration and Validation status based on the systems' design, cost estimates, and technologies found by the DSB panel to be deficient? What was altered in each of these projects to address the DSB panel's concerns before they were approved for Demonstration and Validation?

ANSWER: The DSB panel did not find the six technologies "deficient." There was constant interchange between SDIO and the DSB panel during March-June 1987, when the DSB panel examined the candidate technologies. The DSB panel, as one source of input, provided several areas of emphasis being addressed by SDIO in the Demonstration and Validation Phase. The observations centered on the [deleted] [deleted] all of which are appropriate concerns for a program passing Milestone I. The DSB endorsed the phased deployment concept and the need for a validated JCS requirement. Specific concerns were:

o System design needed to be addressed utilizing a strong, centralized team. SDIO should make use of the talent in FCRC's in this area, as well as an integration contractor. SDIO has formed a Phase One Engineering Team with the membership of FCRCs who were already involved in the program. They are serving under their existing sponsoring agreements. The second recommendation was to get a for-profit systems engineer and SDIO is pursuing an integration contract.

o Costs varied widely due to the maturation of the systems. SDIO has an extensive program to continuously refine costs and cost estimating capabilities as the technologies mature.

o Much of the technology for Phase I was in hand or well along. [Deleted].

Each of these areas is being addressed in the SDIO Dem/Val program for Phase I. Progress in these areas is reported to the DAB on an annual basis. The DSB recommendations were not presented as deficiencies, but as concerns, which are being addressed in the SDIO research program as it is currently structured.

QUESTION: General Abrahamson, Defense Secretary Carlucci has asked another Defense Science Board panel to conduct a new review of the SDI program to assess the restructuring of the program which has occurred in response to budget constraints. Reportedly, the Secretary asked the panel to review whether SDI now is "properly structured" and has "reasonable goals."

What are the key issues being addressed by this new review of the SDI program, and when do you think results of this review will be available to the Executive Branch and to Congress to inform their decisions about SDI's fiscal 1989 budget request?

ANSWER: The panel has reviewed the entire SDI program structure. The results of the review will be made available in the near future.

QUESTION: What guidance have you received from the Secretary of Defense to ensure that any FY88 SDI activities, or planned FY89 activities, will be able to adjust to the outcome of this review without major cost or schedule impacts?

ANSWER: As discussed in the response to previous questions, there is continuous interaction between the Office of the Under Secretary of Defense for Acquisition and the SDI Organization. The DSB Panel has met at specified periods and submits reports on the status of the program structure, and the SDI Organization is constantly refining the schedule of activities and allocation of resources based on progress in different areas. Clearly a major adjustment has been necessary for each of the past three years following the appropriations which have been substantially less than the funds requested. While we do not have any specific guidance concerning program adjustments within cost or schedule limits, we continue to strive to make the best allocation of budgeted resources. This is done in the framework of pursuing a balanced research effort which will lead to a high confidence decision regarding future development of strategic defenses.

QUESTION: General Abrahamson, you reportedly stated recently that even Phase One of SDI will meet the so-called "Nitze criteria" which Congress and the Executive Branch agree should be the standards by which to judge SDI: (1) survivability; (2) military-effectiveness; and (3) cost effectiveness at the margin.

What evidence can you present the Committee to support your statement, and has any independent panel in the Defense Department or other agency agreed with your analyses? Please provide a detailed justification for the record in both classified and unclassified versions.

ANSWER: Survivability has been examined using sophisticated defense system timeline simulations. Analyses have been cross checked using independent contractors and alternative analysis approaches -including the architecture contractors, the National Test Bed contractors, and contractors from the survivability program office. Results have been consistent: an SDS designed to incorporate combinations of survivability technologies (maneuver, hardening, shielding, proliferation, decoys, antisimulation, electronic countermeasures and shootback) can survive to perform its defense mission in the face of the intelligence community projections to the most likely defense suppression threat.

We have begun to analyze Military effectiveness and cost-effectiveness-at-the-margin issues using a methodology developed specifically for this purpose.

[Deleted].

There is much work still required in this area. However, our progress provides confidence that our planned efforts will support a complete assessment of system performance under these SDI criteria before commitment to full scale engineering development.

The results of our efforts have not been approved but we have begun to brief the methodology and initial results to the intelligence community and within DoD.

We continue to seek reviews and comments from as wide an audience as possible as we refine our techniques.

QUESTION: GAO indicates that your stated policy is to make survivability requirements and cost in system design. In spite of this, GAO indicates there has been some lag, compared to performance requirements, in getting survivability requirements approved by your office into system design documents.

Have you provided survivability requirements to each of the six major systems proposed for SDI Phase One?

ANSWER: We have established the Phase I Program Office with the responsibility to develop the specific element performance and survivability requirements. Specific element level performance requirements to include survivability are being formulated and will be provided to the service program offices (SPO).

Previously, each element SPO defined his own threat and survivability requirements, using the Systems Threat Assessment Report (STAR) as the threat baseline. We found that this resulted in some inconsistencies in threat definition and allocation of the Defense Suppression Threat (DST) against each element of the SDS and in survivability requirements levels. The Phase I Program Manager, having responsibility to design and integrate the entire SDS architecture, is currently defining SDS-wide DST threat scenarios that will define how and against which elements the threat will be applied.

The most significant driver of functional survivability requirements is the definition of a realistic design-to threat. Were we to establish specific and stringent passive and active survivability requirements on our space system element designers, we would limit and restrict the spacecraft design. This could result in a more costly but less functionally survivable element. We have not established such requirements and do not intend to do so. With a consistent and uniform threat specification for each element, and for the whole SDS, SPOs and their contractors will be able to perform individual trade analyses that will lead to a selection of survivability solutions, both active and passive, that best support the element performance requirements and the criteria for deployment.

QUESTION: What are the potential impacts on system design and costs of late additions and changes to survivability requirements?

ANSWER: Changes to the defense suppression threat will likely result in some change to system design and costs. The threat document being produced by the Phase

One Program Office is designed to provide a consistent threat definition throughout the Phase I SDS lifetime. The Phase I office is allocating the threat among the elements for the first time. Since the new threat addresses mitigating factors, such as the difficulty of doing real-time space surveillance and battle management from the Soviet land mass, it is considered to be more realistic and may even result in lower rather than higher system costs.

QUESTION: Is your analysis of SDI's cost effectiveness based on models and assumptions which assume cost savings in SDI based on technologies not yet proven -- such as manufacturing less expensive focal plane arrays or reducing space launch costs dramatically in the Advanced Launch System program? What parametric analyses has been done assuming less cost savings from unproven technologies, and what are the results with respect to SDI's cost-effectiveness? Please provide these analyses for the record.

ANSWER:

[Deleted].

The costs are adapted from the June 1987 presentation to the Office of the Secretary of Defense (OSD) Cost Analysis Improvement Group (CAIG). The presentation contained a high and a low estimate for the SDS costs based on a range of technical and programmatic characteristics. Both estimates are used to show sensitivity to the cost estimates.

The two cost estimates used--for both a "low" and a "high" cost design--do not consider potential savings based on technologies not yet proven. These high and low cost estimates were developed to capture a full range of uncertainties associated both with technology assumptions and with cost-estimating procedures. No change in "effectiveness" is assumed when moving from the low- to high-cost design technologies. Rather, the assumption is that somewhere in this low-to-high range--as technological advancements are made--a solution lies which will fully meet all military criteria.

Our analyses are not complete but are continually being refined and improved to support a future decision concerning full scale development. The complete analysis and results will be available at that time.

QUESTION: General Abrahamson, last year you testified to this Subcommittee that the first phase of a Strategic Defense System would cost about \$40-\$60 billion. This year, the Congressional Research Service of the Library of Congress reports that SDIO now estimates this cost at \$75-\$150 billion, not including inflation.

What accounts for this at least 88-183 percent cost increase just for the first phase of SDI, and considering this increase in just one year, why should

Congress have any confidence that these latest estimates will not also increase greatly in the future.

ANSWER: Planning for an initial phase of a strategic defense has been a continuous process since Defense Acquisition Board (DAB) approval of the concept for Phase I, Demonstration/Validation. Cost estimates are continuously refined in preparation for review by the OSD Cost Analysis Improvement Group (CAIG) in conjunction with the annual DAB review of the SDS. The most recent CAIG reviewed cost data for the Phase I SDS was that presented on 10-11 June 87 in conjunction with the Milestone I review process.

At that time, a range of cost estimates for Phase I SDS was developed based on a reasonable range of technical characteristics and programmatic considerations for the elements of Phase I SDS. These ranges were developed to capture the differing assessments of the various program technical organizations of the element programs required to meet system requirements. This resulted in the $75B-$150B range of Phase I SDS acquisition costs that has been quoted in the press. Neither of the extremes, $75B and $150B, are very likely to occur since they represent the occurrence of many extreme events. Likewise, it should be noted that they are equally likely to occur, that is, one should not be favored over the other.

We are currently in the process of further refining our cost estimates. We have a requirement (Section 232 of the FY88 Defense Authorization Act) to report to the Congress the estimated cost to develop, produce, and deploy an initial phase defense system. We plan to submit that report in early summer after full review by the CAIG process.

QUESTION: A spokesman for SDIO was queried in the Washington Post on February 20, 1988, as saying that some of SDI's research projects "haven't gone as planned." If this is an accurate report, how much of the delay in key decision dates for SDI can be attributed to funding reductions, and how much has been caused by slower scientific and technological progress?

ANSWER: We attribute nearly all delay to reduced funding. There are, of course, certain specific instances where not everything has gone as anticipated or desired in the research, and we have had to refine plans. But this type of delay is relatively brief and isolated to a certain area. The funding reductions, on the other hand, have been very large, could only be applied across the entire program and thus have resulted in the overall program delays.

QUESTION: General Abrahamson, the Advanced Launch System (ALS) heavy lift rocket program is key to our efforts to deploy SDI cost effectively. Last year it was projected that R&D spending for the new ALS with a 1998 initial operational capability (IOC) would average about $630 million annually between FY89 and FY98. Congress reduced the funds in fiscal 1988, and we have been informed that spending for ALS will average about $200 million for the next few years. However, the IOC for the system remains 1998.

How can a much reduced funding profile in the earlier years of the program still support the same IOC?

ANSWER: Comparison of total program average annual funding levels with early technology funding levels is inappropriate because of the large hump of full scale hardware, testing and facilities costs typical of later full scale development and initial production. The funding level of approximately $200M per year over the next few years is the amount required to mature the technology for insertion by 1992, in time to support a full scale development schedule for a 1998 IOC. An estimate for the funding profile required for full scale development must wait for completion of the concept definition begun in July 1987.

QUESTION: Please provide for the record a spending profile for ALS, including R&D, procurement, and facilities, for each year through the year 2000.

ANSWER: A spending profile for ALS to include R&D, procurement, and facilities would presume a baseline for requirements and technical design approach. That is an intended output of the Phase I concept definition contracts. Last fall we had expected to have preliminary information from those studies by April to provide a cost estimate to the Congress; however, the delay in congressional release of FY87 funds until March 15, 1988, has delayed that preliminary estimate. The preliminary estimates should be available in June 1988. We plan to establish requirements, cost and technical baselines for the ALS program at the Defense Acquisition Board Milestone 0/1 review scheduled for this August. Until then, program cost estimates for development and production are necessarily preliminary. However, costs for the total program scope currently defined, including concept definition, preliminary design, technology maturation and concept demonstration/validation, are:

Fiscal year	1987	1988	1989	1990	1991	1992
($ Million)	85	150	200	200	225	250

QUESTION: General Abrahamson, the Air Force now claims that, based on Congressional direction led by this Subcommittee, there is no longer is an "interim vehicle" in the ALS program with any launch cost reduction goal of less than a factor of 10 reduction compared with current launch costs. The Subcommittee urged this position to ensure the ALS program would concentrate on reducing launch costs, not on providing an SDI early deployment vehicle.

However, a new Air Force chart on the ALS program shows that it includes "SDI vehicle development" between 1990 and 1997, perhaps as contributing to the shuttle and existing rocket booster programs or a second Air Force chart also describes the ALS program orientation in the "near term" as being technology maturation" and "heavy lift vehicle design to support Strategic Defense System Deployment Decision (IOC 88)."

Has an interim vehicle for SDI deployment been eliminated from the ALS program? If not, what is the justification for not following Congress' statutory mandate?

ANSWER: SDIO has not resisted implementing the restriction on deleting an "interim vehicle" from the ALS program. There is no "interim vehicle" in the ALS program for SDI deployment or any other reason.

QUESTION: General Abrahamson, the Armed Services Committees last year capped ALS expenditures at $50 million pending receipt of a comprehensive DoD-NASA management plan for ALS. We have received a report of sorts, but many critical issues are, in effect, labelled "To Be Determined." In particular, the Authorization Bill specifically required a cost estimate and the NASA and AF funding profiles. The report provided neither.

When will you provide that information?

ANSWER: That information will be provided as soon as it is available. The information labelled "TBD" can not be provided because it does not exist. Until the past few weeks, the seven ALS contractors were prohibiting from spending, collectively, in excess of $10M because of Congressional restrictions. Consequently, their efforts were not sufficiently advanced to provide the data requested. In answer to previous questions we have provided a cost and funding profile for the portion of the program scope currently defined; e.g., for concept definition, preliminary design, technology maturation, and concept demonstration/validation. Cost estimates should be available in the next few months as a result of the Mid-Term Review from the seven concept definition contracts. After the Defense Acquisition Board milestone review of the ALS program scheduled for this August, we will be able to provide baseline program costs. The President's report to Congress on ALS identified the DoD/NASA funding profile as entirely DoD funding until such time as a unique civil requirement is identified.

QUESTION: General Abrahamson, the ALS Integrated Technology Plan which outlines in detail the specific roles and responsibilities of DoD and NASA in the ALS program was agreed to some time ago by the Air Force, NASA, and the Strategic Defense Initiative Organization.

Why has there been a delay in submitting this plan to the Hill as a way to comply with the statutory reporting requirement?

ANSWER: A formal Integrated Technology Plan (ITP) does not exist at this time. SDIO, Headquarters NASA, and Air Force staff received advanced briefing on the ALS ITP, but not a document on which all could formally agree. This document is currently being staffed within the various agencies' senior management for formal approval. There has been no intent to delay submitting the data from this plan. Indeed, it forms the basis of the program cost profile provided.

QUESTION: The statement of managers and the Conference Report on the FY88 Continuing Resolution required that the following allocations be made within the SDI program, not less than:

Boost Surveillance and Tracking System....$185 million
Anti-Tactical Ballistic Missile Program...$75 million
(under Army management)
EMERALD and Other Excimer Technologies....$31.6 million
Medical Free Electron Laser...............$17 million
(Of which $2 million is only for development miniature proton accelerators for medical diagnostic purposes)
Advanced Launch System....................$150 million
(Of which $70 million is to be transferred to NASA)

General Abrahamson, have the required allocations been made in these exact amounts and, if not, why have you ignored the expressly stated will of the Congress?

ANSWER: Current status of managers and conferees interest items is as follows:

	Conference Report	Current Release
BSTS	$185M	$185M
ATBM	$ 75M	$ 62M
EMRLD & Other Excimer Technologies	$ 31.6M	$ 30M
Medical Free Electron Laser	$ 17M	$ 14M
ALS	$150M	$ 0M

The Strategic Defense Initiative Organization fully intends to comply with the intent of Congress. The magnitude of the FY88 reduction requires careful adjustment to ensure the program is executed without aggravating impacts to the program.

The $13M unreleased for ATBM, $1.6M unreleased for Excimer technologies and the $3 million unreleased for Medical Free Electron Laser are currently expected to be released prior to 30 September 1988.

The Armed Services Committees last year capped ALS expenditures at $50 million pending receipt of a comprehensive DoD-NASA management plan. The funds reserved for ALS are currently being held from release pending resolution of critical issues.

QUESTION: General Abrahamson, your testimony highlights the major program changes you have made due to past SDI budget cuts, including the termination or restructuring of some expensive experiments.

Can you estimate whether these changes will cause measurable decrease in the level of confidence in the feasibility of any of the involved technologies, and can you tell us specifically which technologies have moved to lower confidence or higher risk levels?

ANSWER: We have said consistently that if the budgets had been on the order requested we would be able to make a decision with confidence in the early 1990s. Given the substantially reduced budgets, even with better than anticipated progress in several areas, now we are facing a delay of one to two years in that decision. The 1988 Report to Congress includes confidence charts for the different projects within the SDI program. These charts identify the events along the path toward high confidence and are based on the current budget and the one to two year delay. If we can expect future funding at the revised, requested levels, then we can expect to be able to achieve the confidence indicated on those charts. Reduced funding levels will result in further delays, or inability to complete the necessary activities for high confidence.

QUESTION: SDI's objective was to be able to assess the feasibility of far-term defenses, such as lasers and neutral particle beams, and whether to enter the Demonstration/Validation phase for those technologies, at the same time, it determined the feasibility of the near-term defenses and whether to move the six key, Phase One projects into full scale development.

Has this "linkage" between the key decisions in both programs been maintained despite the budget cuts and SDI restructuring, and, under the restructured program, will we have more or less confidence in the feasibility of the far-term technologies at the same time we decide whether to begin full scale development of the earlier missile defenses?

ANSWER: The linkage between mature and advanced technologies is the key to a balanced research program and an effective deployment of strategic defenses. In order to be able to make a national decision concerning deployment of an initial phase of a strategic defense system, we would want to have confidence in follow-on technologies. Such follow-on technologies would be essential to the continued effectiveness of the defensive system. For that reason we are careful to maintain a balance across all technologies and preserve the linkage.

QUESTION: What was the risk assessment for DoD being able to resolve, by the informed decision date of the 1990's, of the key scientific and technological issues in each of the six projects contemplated for SDI's Phase One, both before and after the latest budget reductions and SDI program restructuring? How have the risk assessments changed for each of the key SDI advanced technologies before and after the budget reductions and program restructuring? Please provide a complete list for the record and answer in terms of "low, medium, or high" risk.

ANSWER: Budget reductions have caused a restructuring of the program. The major impact has been an addition of 1-2 years in the time we projected necessary to reach a confidence level appropriate to make a decision on full scale development for the Phase I system (Milestone II). This must be preceded by a decision to move follow-on technologies from concept definition to demonstration/validation (Milestone I). We would not move into full scale development of Phase I without confidence in our ability to eventually develop the full system.

Each technology in Phase I has a program designed to reach high confidence in our ability to resolve the issues necessary to reach a Milestone II decision in [deleted]. Our follow-on technologies have programs structured to also reach a high confidence level with respect to their appropriate level of maturity for a Milestone I decision in that timeframe. The NASA maturity scale was used as a basis to assign confidence levels.

Normally, high confidence would equate to low risk. Prior to budget reductions this was basically true. Many programs have been initiated only to be subsequently slowed or canceled altogether. Restructuring contracts and stretching them has been costly in terms of time and funds. With fewer resources the program relies more on consolidated tests and technology decisions based on fewer inputs. Vigorous follow up of technological success is not always possible. Therefore, within each technology area, we have increased the risk as each experiment and study becomes a greater proportion of the input. However, SDIO has carefully balanced its support to both the Phase I SDS and technologies needed for a more responsive, follow-on system.

The details of each technology confidence level are provided in the March 23, 1988 Report to Congress on the Strategic Defense Initiative. The report describes the confidence level in terms of "low, medium, and high".

QUESTION: General Abrahamson, some Senators and Congressmen remain concerned whether any parts of the SDI program in fiscal 1989 may violate the narrow interpretation of the Anti-Ballistic Missile (ABM) Treaty.

Without addressing which interpretations of the ABM Treaty are valid, can you assure us that no funds in SDI's fiscal 1989 budget request will be used for any research activities, including long-lead procurement for any space-based and ground-based experiments, which may violate the narrow interpretation of the ABM Treaty?

ANSWER: All SDI research activities, including any space-based and ground-based experiments, for FY89 are entirely compliant with the narrow interpretation of the ABM treaty. Furthermore, the program includes no funds to purchase any long-lead equipment in FY89 that would be uniquely required for any activity going beyond the narrow interpretation.

QUESTION: General Abrahamson, the Defense Science Board panel which reviewed the SDI program last August concluded that "the (SDI) activities that must be carried out over the next couple of years, however, should not be seriously affected even if the United Stated adheres to the narrow (ABM Treaty)interpretation."

Do you agree with this conclusion?

ANSWER: Even If the U.S. were to decide today to restructure the SDI research under a different interpretation of the ABM Treaty, it would take some time before the major activities could be realized. A significant amount of lead time and investment is necessary to plan for and carry out such activities.

The real question is how much information future decision makers will need to make the decision on full scale development. Our tests are designed to profile pieces of the puzzle. Integrated tests involving all elements may be deemed essential so that national decision by a future administration. This is when the interpretation of the Treaty must be weighed against the confidence we have in our research results.

QUESTION: General Abrahamson, within the limits of protecting classified information, what percent of the targets to be defended by SDI's Phase One defenses will be military targets, and what percent will be large concentrations of people?

ANSWER: The architecture defined to meet, or exceed, the JCS requirement for an initial phase of a strategic defense system would defend the U.S. and our allies. We do not describe it in terms of protecting either military targets or population because of the layered defense concept. The first layer is a space-based interceptor which can destroy enemy ICBMs while in the boost and post boost phase of flight, regardless of their intended target. This, coupled with the capabilities of the other layers of the defense, would work to disrupt a large attack and cause the enemy planner to lose confidence in the probability of success of this attack plan. Further, such a defensive capability can do other things. It can deal effectively with the accidental launch and small attacks which are conceivable, and the irrational threat which deterrence does not allow for. In all of these, the contribution of the strategic defense would be to defend the U.S. and our allies.

QUESTION: Although it is clear that any warheads intercepted by the Phase One SDI defense will reduce damage to the United States by a certain extent, thus, possibly saving lives, could you characterize the Phase One defenses as primarily reducing the expected damage to military targets, or to civilian targets?

ANSWER: As discussed in the previous answer, we do not describe the capability in terms of protecting either military targets or civilian targets; the contribution of the strategic defense would be to defend the U.S. and our allies.

QUESTION: If it now is estimated to cost $75-$150 billion for SDI Phase One, is it fair to say that a more comprehensive set of defenses which will protect larger proportions of the American population will cost many times this amount?

ANSWER: First, the estimate you mention includes a very wide range. We continue to work to refine the estimate and improve it. Given a national decision to develop and deploy an initial phase of a strategic defense system, there would be additional costs associated with continuing research in advanced technologies. Advanced technologies are a necessary adjunct to an initial phase. These technologies would provide the capability to improve the initial phase, as needed, to maintain the effectiveness of the defense against evolving Soviet systems and to improve the level of defense effectiveness.

QUESTIONS SUBMITTED BY SENATOR BYRD

QUESTION: The Department of Defense has recently given Milestone I approval for demonstration and validation of a specific Phase I SDI system to be deployed in the 1990s, assuming a deployment decision is made in the early to mid-1990s. The SDI Organization has argued that pursuing Phase I to a deployment decision will require adequate funding levels and support from Congress. Given the budget constraints, do you believe it is still realistic to pursue a Phase I effort that might lead to deployment in the mid-to-late 1990s? What are the life-cycle costs of the Phase I SDI system as currently envisioned? What can you tell us about the SDI Organization's efforts to define "cost-effectiveness," and how will the proposed Phase I system be cost effective at the margin?

ANSWER: We have completed a major restructuring of the entire research program based on revised budget projections. While some overall program delay is unavoidable, the pursuit of Phase I systems acquisition for a 1990's deployment is still an acceptable goal.

At present, costs for the Phase I elements plus BM/C3 and System Engineering & Integration (SE&I) efforts are being prepared for review by the OSD Cost Analysis Improvement Group (CAIG) in support of the Defense Acquisition Board. Phase I costs were previously presented to the CAIG in June 1987. At that time, acquisition costs ranged from $75B-$150B [deleted] [deleted]. Final updated costs will be provided when available.

We have begun to analyze Military effectiveness and cost-effectiveness-at-the-margin issues using a methodology developed specifically for this purpose.

[Deleted.]

There is much work still required in this area. However, our progress provides confidence that our planned efforts will support a complete assessment of system performance under these SDI criteria before commitment to full scale engineering development.

QUESTION: Some officials in the SDI Organization have been saying that the Phase I effort will consume about 50% of the total SDI budget each year. Others seem to be saying something different; that SDIO will maintain program and funding balance between nearer-term SDI technologies, or Phase I, and the more advanced technologies under investigation by the SDI Organization. Please clarify your position on the budgetary balance between the Phase I effort and the development of the more advanced SDI programs and concepts.

ANSWER: We have been careful to provide a balance in the allocation of resources between the mature and more advanced technologies. This is necessary to ensure that evolving technology would be available to support the initial phase of a defensive system, as needed to meet a responsive threat.

For FY89 we plan to allocate the requested funds in the following manner:

Phase I	Follow-on Phases	Both
14%	50%	36%

Note that I have included a category for "both." This category includes that research with direct application to Phase I, and also which is necessary for follow-on phases.

QUESTION: Senator Nunn has proposed development of an Accidental Launch Protection System (ALPS). How might Senator Nunn's idea be compatible with the current Phase I concept and what steps are the SDI Organization taking to examine ALPS?

ANSWER: The Department of Defense has initiated a study of the concept of a limited strategic defensive system. This involves detailed analyses of the programmatic, cost, Treaty-legal, and policy ramifications of proceeding with such a system. The results of that in-depth study should be available in the next few months.

QUESTIONS SUBMITTED BY SENATOR MCCLURE

QUESTION: General Abrahamson, the original projected SDI budget for fiscal 1989 was $6.7 billion. Under the amended budget, that level was reduced to $5 billion. The House Armed Services Committee voted this week to further reduce SDI funding by $700 million.

How will the reductions from the original request to the current request level affect the program? What will you not be able to do with $5 billion that you could have done with $6.7 billion?

ANSWER: The original DoD budget request for SDI for FY89 (the two-year, FY 88-89 request of January 1987) was $6.3 billion. This was reduced $1.8 billion (to the amended request of $4.5 billion) to align with the budget summit agreement. The SDI program was significantly restructured by January 1988. This restructuring was the result of both the FY88 Appropriation, a significant reduction from the request, and the revised FY89 request. The restructuring resulted in numerous project delays with the cumulative effect in a one-two year delay in the time when we can support a decision with confidence on development of an initial phase of a defensive system.

QUESTION: In recent years, the House has voted to reduce the Armed Services Committee's SDI funding level, so what comes out of the House may well be even lower than that level. What would a zero-growth or near-zero-growth budget do to the SDI program?

ANSWER: The greatest impact of funding at the $3.7 billion level would be on planned experiments which are essential to demonstrate concept feasibility:

The schedule of major experiments supporting the most mature technologies - those associated with an initial phase of a strategic defense - would have to be substantially changed. Further, major experiments for the follow-on defense system elements (advanced technologies) would be delayed by 1-2 years. These technologies, offering the capability to defend against possible future Soviet offensive systems, include the ground based laser, neutral particle beam, and hypervelocity gun.

Clearly, another major restructuring of the SDI program would be required. Contracts would be terminated; competition would be sacrificed; work begun would be halted; inefficiencies would result.

Continued progress in the defense acquisition process would be delayed and would proceed with an increased level of risk. This level of funding is not consistent with a program that seeks to provide defense options which the nation might deploy this century.

Questions Submitted by Senator Johnston

QUESTION: The cost estimate for Phase I through deployment has grown from an estimated $40-60 billion a year ago, to $70-100 billion, and now to $75-100 billion. Do you anticipate that the Phase I architecture will change as Defense Acquisition Board reviews continue? How might this affect the cost estimate? How confident are you of the latest cost estimates for Phase I? I understand that those costs were not incorporated in the Five Year Defense Plan. Is that true? Wouldn't SDI require during that same period many billions more dollars for tech base research on later phases of SDI? Can you give an estimate of what that tech base research would cost?

ANSWER: The current architecture for an initial phase of a strategic defense system is best described as a baseline architecture. Its purpose is to establish a frame of reference - a common baseline or focus - for the activities necessary to further define the system concept. Without any doubt the architecture will change. Already we have been able to improve the system by further refinement of the mid-course sensor concept, and as research progress continues the system designs will be changed in accordance with the capabilities of our nation's technology.

One of the benefits of this long-term research program is that we are able to pursue both system design from a focus on effectiveness and component design/manufacturing technology from a focus on efficiency. We are establishing cost goals for the future and as we are able to achieve these goals we will further refine the cost estimates. Our current cost estimates cover a wide band to account for uncertainty associated with achieving cost goals and system design refinements.

The DOD five year program does not include full scale development costs for a strategic defense system. The acquisition concept for an initial phase of a strategic defense includes maintaining a credible research activity to develop necessary future capability for the defense to maintain it's effectiveness. Thus, a continuing R&D effort would be an essential component of a procurement program for strategic defenses. The cost of such continuing research is not defined, but the part of the current SDI research dealing with advanced technologies could be considered representative of that cost.

QUESTION: The "Report to Congress on the Strategic Defense System Architecture" repeats a rationale often heard about SDI and that is, "...the mere development of the option for phased deployment of strategic defense can help motivate Soviet acceptance of US arms reduction proposals. With such acceptance, phased deployment plans could be modified accordingly. If they respond favorably, a deployed system could function as an insurance system and would require more limited quantitative upgrading over time. If they do not respond favorably, full deployments could be initiated."

Why would the threat of Phase I deployment cause the Soviets to give up a large portion of their ICBMs, thus making the defenses' job even easier? Why wouldn't the Soviets react in a manner analogous to the way we did when they threatened us with strategic defenses -- we deployed MIRV and the Stealth bomber? Couldn't the Soviets simply refuse to amend the ABM Treaty, thus denying deployment of SDI under the Treaty? Aren't we in the position of having to convince the Soviets to amend the ABM Treaty so as to permit SDI deployment? Do we have any other option than abandoning the ABM Treaty if Phase I deployment is to proceed?

ANSWER: Development of the option to deploy an effective Phase I system will help to motivate the Soviet Union to reduce their dependence on ballistic missile forces because it will promise a future in which the military utility of those forces will be progressively reduced. Under these circumstances, it would be in the Soviet Union's interest to engage the US in an arms control regime that regulates the future strategic balance.

One of the goals of the SDI program is to develop technical options that cannot be easily countered by the development and deployment of technical countermeasures and/or proliferation of offensive weapons. We have good reason to believe that we will be successful and such ballistic responses as suggested (MIRV) will make little sense to the Soviets, either from a military or a fiscal point of view. Other responses are exceptionally challenging from both a fiscal and technical view, and if the Soviets pursue that route it would serve to move them away from their reliance on ballistic missiles.

We have stated on many occasions that while we will continue to discuss the SDI program and the possibility of future deployment with the Soviets, they will not be permitted to exercise a veto over a future deployment of a Phase I system. Such a deployment would be inconsistent with the ABM Treaty. However, under the ABM Treaty we have the right to withdraw from that Treaty, six months after notification, if our supreme national interests so require. We are negotiating with the Soviet Union in the Defense and Space Talks in Geneva for the purpose of fashioning a mutually agreeable arms control regime that would embrace the possibility of US and Soviet strategic defenses.

QUESTION: In the context of the ABM Treaty what did the President mean when he said on March 14, 1988, "...we will move forward, when ready, with phased deployments of SDI."?

ANSWER: It is the policy of this Administration to develop effective ballistic missile defense options that could support a possible decision by a future President and Congress to deploy strategic defenses. If the US wished to deploy a strategic defense, but if the US and the Soviet Union had not yet agreed to a new arms control regime permitting the deployment of strategic defenses, the US would have to provide six months notification under the ABM Treaty of our intention to withdraw from the Treaty to satisfy our supreme national interests.

QUESTION: Has the Administration determined whether or not the SBI can be tested and developed under the broad interpretation of the ABM Treaty as a system based on "other physical principles"?

ANSWER: The technical and legal analysis from which the President will make his determination on whether kinetic energy devices in the SBI program are based on "other physical principles" is not yet complete. The care with which we have examined the place of kinetic energy systems in the ABM Treaty is an indication of the seriousness with which we view this Nation's international legal obligations.

It is important to note that the near-term flight experiment involving SBI concepts has been subjected to a rigorous review by the Administration's treaty compliance group and is certified as fully compliant with the restrictive interpretation of the ABM Treaty.

QUESTION: In the absence of perfectly leakproof and invulnerable strategic defenses, how could we ever give up our nuclear weapons and the ability to threaten the Soviets with nuclear annihilation and instead adopt a policy of relying on strategic defenses? Until such defenses are available, won't we have to rely on nuclear deterrence for our security?

ANSWER: As long as nuclear weapons exist and there remains an imbalance in conventional forces between the Soviet Union and its allies and the US and its allies, nuclear deterrence will be an essential ingredient of US national security policy. SDI cannot, nor was it ever intended to be, the means by which such a world might be created. SDI is only one of many necessary steps involving improvements in the technologies of air and conventional defense and advances in nuclear and conventional arms agreements between East and West. Until these other steps can be completed, SDI will make a crucial contribution to a stable and secure deterrence capability based on a balance of offensive and defensive forces. As more capable defenses are deployed, however, we expect to see that balance shifting to one where defenses make greater and greater contributions to our deterrent posture. We would also anticipate that the mix of remaining nuclear weapons would have far fewer ballistic missiles, which represent the most destabilizing, threatening portion of the Soviet threat.

QUESTION: The Strategic Defense Milestone Panel said in their letter report of Aug 13, 1987, that it was clear that no analysis has been satisfactorily done on the issue of whether the US would be any more secure with a Phase I type deployment if the Soviets followed suit and deployed an equivalent system as compared to the case where neither side carried out any more BMD deployment. Has such a study been started? By whom? When will it be complete? Isn't this a basic question that should have been settled long ago, certainly before advocating deployment of SDI?

ANSWER: Implications of the deployment of strategic defenses by both the US and the Soviet Union was addressed preliminarily by the Future Security Strategy Study. This study was submitted to the President in October 1983. Other studies have been conducted since that time. The JCS addressed the issue in their assessment of requirements for an initial phase of a strategic defense system. We continue to address the issue of two-sided defenses and intend to have a more comprehensive analysis later this year. Previous results clearly indicate a situation where the Soviet war planner is much less confident of achieving his aims, and that decreased confidence results in increased deterrence and more security for the US.

QUESTION: How good an ASAT weapon would a Treaty compliant ERIS deployment be?

ANSWER: To date, we have not studied a treaty compliant ERIS used in an ASAT role.

QUESTION: What is your projected IOC and FOC (or some equivalent date by your definition) for a Phase I deployment?

ANSWER: The research program is now structured, given the previous year budget reduction, to provide sufficient information to permit a national decision on full scale development of an initial phase of a strategic defense system in the early 1990s time frame. This would include an informed decision regarding follow-on technologies also. An IOC definition for the initial phase has not been fully formalized because of the complexity of such a definition and the recognition of change which will occur in the new few years as we approach the full scale development decision point.

QUESTION: In discussions about SDI and stability there has been some discussion of the effect of Phase I on crisis stability, but we have seen very little about the issue of how SDI would affect arms race stability. Could you please discuss that?

ANSWER: As the Administration has defined an effective strategic defense system, it will have the effect of discouraging the Soviet Union from responding with offensive countermeasures and/or proliferation of offensive forces. Against effective defenses, the best response is a corresponding defense. Realization of this by the Soviet Union would enhance the prospects for a strengthened US-Soviet arms control regime.

QUESTION: Last year's "Report to Congress on the ABM Treaty" said that deployment options would be lost if delay in moving to the broad interpretation of the ABM Treaty extended to as much as one year. Have deployment options been lost and what are they? By what period of time do you see Phase II deployment being required, as Phase I loses effectiveness against Soviet countermeasures?

ANSWER: The Soviet Union can be expected to continue to explore the possibility of countermeasures to an SDI-type defense. If progress in the SDI program is slowed significantly by insufficient funding, or failure to take full advantage of its legal rights under the ABM Treaty, the development of a Phase I deployment option might be so late in coming that it might be inadequate to deal with the Soviet threat at that time. As a result, it would be necessary to pursue other, more advanced defensive options. Thus, such a slowing of the SDI program could result in the Soviet Union discouraging US defensive options, rather than the US discouraging Soviet offensive options. While the program has not yet reached this point, it will if current trends continue.

CONCLUDING REMARKS

Senator JOHNSTON. Mr. Chairman, if you know of nothing else, I will simply say to General Abrahamson, thank you very much. You have been very generous with your time. It is always a vital and interesting area to explore with you, and we appreciate your forthcomingness.

Chairman STENNIS. Mr. Chairman, I thank you for your remarks in thanking Lieutenant General Abrahamson. He has given very valuable testimony here, I think. He may not have the final and ultimate answer. but he has got enlightening comments and partial answers.

This emphasizes a pickle we are in here. We as members here in the Congress, as you know, we have got to pass on these matters at some level of support or strength here within just a very few weeks. And then there is a group of incoming newcomers coming in within a very few months.

Now, I am not suggesting that it is impossible that we will finally find a way, if you gentlemen continue to give us solid testimony. But it does reflect an unhappy side of present day affairs.

I have been right here in the middle of it all the time it was growing. I had plenty of opportunity to have done something to stop it, but I have not caught up with that yet. Our country has not lost its nerve and we are not going to lose our nerve and our stability and our calmness and our best know-how.

But this does illustrate the difficulties and it illustrates the cost. And you gentlemen out there on the front row that are carrying out the military and other difficult parts of meeting this situation, you just keep on plowing. Do not weaken, do not give up. Keep on.

The Congress I think will back you. You may hear a good deal of complaining maybe at times, but it is one of the problems of our time and it can be met. I feel it can be met.

Anyway, that conversation I had with you this morning, General, did not reveal any secrets or anything else, but it revealed a lot of confidence in my mind that, now that we have you and others like you with lifelong training and vision who feel a sense of responsibility, capability being developed, considered and reconsidered.

This is not a happy set of facts, but it makes me happier and stronger in my faith in our system to hear your testimony and discuss the subject with me and my fellow members.

So we thank you all. We thank all of you. We may call you back.

General ABRAHAMSON. I thank you, Mr. Chairman, very much.

SUBCOMMITTEE RECESS

Senator JOHNSTON. Thank you, General. The subcommittee will stand in recess, subject to the call of the Chair.

[Whereupon, at 12:01 p.m., Thursday, March 31, the subcommittee was recessed, to reconvene at the call of the Chair.]

DEPARTMENT OF DEFENSE APPROPRIATIONS FOR FISCAL YEAR 1989

TUESDAY, APRIL 19, 1988

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10:02 a.m., in room SR–192, Russell Senate Office Building, Hon. John C. Stennis (chairman) presiding.

Present: Senators Stennis, Johnston, Stevens, Weicker and D'Amato.

DEPARTMENT OF DEFENSE

UNDER SECRETARY OF DEFENSE FOR ACQUISITION

STATEMENT OF HON. ROBERT B. COSTELLO, UNDER SECRETARY OF DEFENSE FOR ACQUISITION

ACCOMPANIED BY THOMAS CHRISTIE, DIRECTOR, PROGRAM INTEGRATION, OFFICE OF THE UNDER SECRETARY OF DEFENSE FOR ACQUISITION

PRODUCTION RATES

OPENING STATEMENT OF CHAIRMAN STENNIS

Chairman STENNIS. Ladies and gentlemen, this is a meeting of the subcommittee relating to many parts of the military program, and more particularly, there are some vital parts of it that are rather expensive but absolutely essential. Even though I have been around a good while, I am amazed at the thorough review that these major items are given with regard to accountability and need.

It is an amazing job. I am not here to compliment anyone or anything like that, but I give many of them credit for doing a truly outstanding job.

This factual hearing is unusually well put together by our staff members, who have done a fine job here, and I commend them for it. They gave me some figures here a few minutes aoo that all of you may find interesting: for each working day, the amount expendel by the Department of Defense is almost $1 billion.

Now, that is not chickenfeed. Experts who know what they are doing have examined these figures and they had some inclination that it could be reducmd. but the more they got into the actual hard facts. the more evident it became that that was not easy to do at all.

We need to have every member of our subcommittee here that possibly can, and I feel sure more of them will come up.

I am informed that the Senator from Alaska is on his way, and he will be here—he always shows up. He is a busy man. I will interrupt the proceedings if necessary to give him a chance to make up for any lost time, but we want to give the people, by and large, a chance today to get into this, too.

The gentleman who has the responsibility in this busy industrial world that we are living in, Dr. Robert B. Costello, is the Under Secretary of Defense for Acquisition, has been with us a relatively short period of time. He had been with General Motors for several years, with an outstanding record. He will be testinying on the subject of weapons system production rates and, in a broader range, reducing costs and increasing quality of items procured by the Department of Defense.

BUDGET REDUCTIONS

As we are all aware, budget constraints have forced the Defense Department to reducm their fiscal year 1989 request by approximately $33 billion. Now, ladies and gentlemen, not many years ago it woull have been considered ridiculous trying to reduce by $33 billion the amount of money to be appropriated for a certain purpose. You could not have gotten the votes to have done it. It did not work that way.

Well, I will tell you, this thing has gotten so important that some of this has to be done, and I feel certain that one of the highest points since I have been here is last year when we got the agreement out of the House of Representatives, both parties, the Senate, both parties, the President, his party—all of them came across and agreed to a very sizable change in the amount, and laid it down as in effect for 2 years.

I will proceed now, and we will get right on into these matters.

PROGRAMS USED TO MEET $33 BILLION REDUCTION

Now, to accommodate a $33 billion reduction in the fiscal year 1989 budget, Secretary Taft with the Department of Defense testified before this committee of DOD decisions to protect the readiness and personnel accounts and force the procurement accounts to bear the majority of the necessary reductions. Secretary Taft further testified that the Department was able to absorb these reductions within the procurement account by terminating marginal programs and delaying programs from entering into production in fiscal year 1989.

The Under Secretary has also testified that the Department held the line on program stretchouts and on the procurement of inefficient quantities of systems currently in production. The focus of today's hearing will be on the tough procurement choices that have been made by the Department in fiscal year 1989 and the plans and policy changes being implemented by DOD senior acquisition executive, Dr. Costello to live within this reduced budget environment in the future.

Both DOD and the Congress recognize that we must become much more efficient in the way we procure weapons systems while at the same time continue to improve the quality of these systems.

INTRODUCTION OF DR. COSTELLO

Dr. Costello, your record statement says Secretary Carlucci is determined to avoid the twin evils of an ineffective acquisition system and hollow forces.

We look forward to hearing your testimony on how, as DOD senior acquisition executive, you will accomplish this highly important objective.

Mr. Secretary, I would now call on you to let you lay out your views on this entire matter. It is highly important.

And then we will get on into details.

We are glad to have you here and appreciate the fact that you are in Washington and here with us today.

ECONOMIC PRODUCTION RATES

Dr. COSTELLO. I appreciate your very kind comments, Mr. Chairman, and obviously, you and your staff and the staff of the other members have spent a lot of time looking at defense acquisition. It is a pleasure to be here today to testify before your subcommittee on economic production rates, and on the broad scope of how we are reducing costs and improving the quality of the items that we do buy.

This is my first time before this subcommittee, and I again want to restate that I appreciate the opportunity to be here to explain some of the things we are doing and have in place.

But first I would like to request permission to insert my prepared written statement for the record.

Chairman STENNIS. All right, without objection, it will be in the record.

Dr. COSTELLO. Fine. I would also like to introduce Mr. Tom Christie who accompanies me today. Tom is the Director of Program Integration in my office and is a major supporter of the scrubbing and the analysis that we do.

Chairman STENNIS. We are glad to have you here, sir.

Mr. CHRISTIE. Thank you.

Chairman STENNIS. To add to the strength of the committee's witnesses, and we will give you a chance to be heard later.

DEALING WITH DEFENSE BUDGET REDUCTIONS

Dr. COSTELLO. Today it seems that no matter what we want to say about defense acquisition, we always begin with the defense budget. Limited budget resources are an economic fact. We are currently working to bring our out year program plans in line with fiscal constraints. Many program terminations and force structure changes were made this year of which you are well aware. Reductions required in the out years will be much more difficult to implement.

But as you indicated, Secretary Carlucci and myself are both determined to avoid the twin evils of ineffective acquisition and hollow forces. We must cut the cost of weapons systems if we are to have an adequate defense in a declining budget environment. We must demand

and receive quality products. These are our goals, and I am pleased to state that we have made significant progress in a number of areas, many of them with the help of the Congress.

Let me mention three of these areas which should be of interest to this committee. They include a commitment to achieve economic production rates. Of 34 major acquisition programs in our fiscal year 1989 amended budget submission, 30 are planned for procurement at or above the minimum economic production rate.

MULTIYEAR PROCUREMENT

The next is multiyear procurement. Since fiscal year 1982, when this effort began, the Congress has approved 50 of our 74 candidate programs. The total savings of those 50 programs will exceed $7.9 billion. We have proposed seven more candidates, which should save an additional $943 million.

The third item is milestone authorization of programs. Last year the Congress approved four such milestone authorizations, the Trident Missile, the Army Tactical Missile System, the Mobile Subscriber Equipment System and the Navy's new trainer aircraft. Milestone authorization adds to program stability. But program stability also needs stable appropriations.

Additionally, for major systems, we are pursuing various approaches such as teaming in the development phase and dual sourcing in the procurement phase. These techniques not only reduce costs, but also can strengthen the industrial base and increase surge capacity, encourage innovations, improve the likelihood of meeting schedules and decrease the incentive for changes.

We are also pursuing a new acquisition competition concept called Could Cost which eliminates nonvalue added work by both the Government and contractors.

We are doing our part to live within reduced budgets. We must lay the groundwork for long-term benefits and cost savings.

Mr. Chairman, you have my prepared statement. This concludes my remarks. I look forward to responding to your questions.

[The statement follows:]

PREPARED STATEMENT OF ROBERT B. COSTELLO

UNDER SECRETARY OF DEFENSE FOR ACQUISITION

GOOD MORNING, MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE. THIS IS MY FIRST APPEARANCE BEFORE THIS SUBCOMMITTEE AND I WELCOME THE OPPORTUNITY TO TESTIFY BEFORE YOU. THIS MORNING I WILL DISCUSS ECONOMIC PRODUCTION RATES, BUT IN THE BROADER VEIN OF REDUCING COST AND INCREASING QUALITY. THAT'S OUR MISSION. BEFORE I BEGIN, I WOULD LIKE TO INTRODUCE MR. TOM CHRISTIE, THE DIRECTOR OF PROGRAM INTEGRATION IN MY OFFICE.

TO PUT OUR DISCUSSION IN PERSPECTIVE, WE SHOULD BEGIN WITH AN ASSESSMENT OF THE EFFECT OF A DECLINING DEFENSE TOPLINE. THE FY 1989 AMENDED BUDGET REFLECTS THE FOURTH YEAR OF NEGATIVE REAL GROWTH. THIS NEGATIVE GROWTH HAS HAD TWO MAJOR EFFECTS.

FIRST, BEING FACED WITH NEGATIVE GROWTH AFTER HAVING PLANNED FOR MUCH HIGHER BUDGET LEVELS CREATES INSTABILITY IN OUR PROGRAMS. TWO YEARS AGO WE PROJECTED A BUDGET AUTHORITY TOPLINE OF $361.9 BILLION FOR FY 1989 (IN FY 1989 CONSTANT DOLLARS). LAST YEAR, WE PROJECTED $323.3 BILLION FOR FY 1989. THE PRESIDENT'S CURRENT BUDGET REQUESTS A TOTAL OF $290.8 BILLION. THIS IS A REDUCTION OF $71.1 BILLION FROM OUR ORIGINAL PLAN TWO YEARS AGO, AND A $32.5 BILLION REDUCTION IN THE PAST YEAR ALONE.

SECOND, THIS NEGATIVE GROWTH HAS CAUSED US TO CAREFULLY EVALUATE ALL DEFENSE PROGRAMS. WHEN DEPUTY SECRETARY TAFT TESTIFIED THAT THE DEPARTMENT'S FY 1989 BUDGET AMENDMENT WOULD CONFORM TO LAST FALL'S BUDGET SUMMIT, HE STRESSED THE DEPARTMENT'S PRIORITIES OF QUALITY PEOPLE, READINESS, AND EFFECTIVE ACQUISITION. THE MAINTENANCE OF QUALITY PEOPLE AND READINESS PRIORITIES REQUIRED FUNDING INCREASES FOR OPERATION AND MAINTENANCE AND FOR MILITARY CONSTRUCTION. IN ORDER TO HOLD RDT&E STEADY AND MINIMIZE REDUCTIONS IN THE MILITARY PERSONNEL APPROPRIATION, PROCUREMENT BORE THE BRUNT OF THE REDUCTIONS. THE BUDGET REQUEST FOR PROCUREMENT APPROPRIATIONS REFLECTS 4.3% NEGATIVE REAL GROWTH.

NEVERTHELESS, EFFECTIVE ACQUISITION IS A MAJOR PRIORITY OF THE DEPARTMENT. IN A DECLINING BUDGET ENVIRONMENT, WE ARE MAKING TOUGH TRADE-OFFS. WE PRECLUDED PROGRAM "STRETCH-OUTS" AND THE PROCUREMENT OF INEFFICIENT QUANTITIES OF MATERIEL BY TERMINATING MARGINAL SYSTEMS AND DELAYING SYSTEMS NOT YET TECHNICALLY READY.

LIMITED BUDGET RESOURCES ARE AN ECONOMIC FACT. WE ARE CURRENTLY WORKING TO BRING OUR OUT-YEAR PROGRAM PLANS IN LINE WITH CONGRESSIONALLY IMPOSED FISCAL CONSTRAINTS. MANY PROGRAM TERMINATIONS AND FORCE STRUCTURE CHANGES WERE MADE THIS YEAR. REDUCTIONS REQUIRED IN THE OUT-YEARS WILL BE MUCH MORE DIFFICULT TO IMPLEMENT, BUT SECRETARY CARLUCCI IS DETERMINED TO AVOID THE TWIN EVILS OF AN INEFFECTIVE ACQUISITION SYSTEM AND HOLLOW FORCES. AS UNDERSECRETARY OF DEFENSE FOR ACQUISITION, I AM ALSO COMMITTED TO THESE GOALS AND I ASSIST SECRETARY CARLUCCI IN MAKING THESE DECISIONS IN THREE WAYS.

FIRST, I CHAIR THE DEFENSE ACQUISITION BOARD (DAB). THE DAB REVIEWS OUR MAJOR DEFENSE ACQUISITION PROGRAMS AND MAKES RECOMMENDATIONS TO ME ON THE PROGRESS OF THESE PROGRAMS. THE BOARD CAN IDENTIFY PROGRAMS WHICH SHOULD BE RESTRUCTURED, DELAYED, OR TERMINATED. HAVING THE VICE CHAIRMAN OF THE JOINT CHIEFS AS THE BOARD'S VICE CHAIRMAN GIVES US A CLOSER LINK WITH THE OPERATIONAL COMMANDERS-IN-CHIEF AND THEIR PERSPECTIVES.

SECOND, I AM A MEMBER OF THE DEFENSE RESOURCES BOARD. I BRING MY PERSPECTIVES AS DEFENSE ACQUISITION EXECUTIVE AS WELL AS THE EXPERTISE OF THE DEFENSE ACQUISITION BOARD TO THE PROBLEM OF PROPERLY BALANCING OUR BUDGET VIS-A-VIS OUR ACQUISITION GOALS. THAT'S A PARTICULARLY DIFFICULT TASK IN THE PRESENT FISCAL CLIMATE.

FINALLY, AS DEFENSE ACQUISITION EXECUTIVE, I ESTABLISH ACQUISITION POLICIES AND STRATEGIES WHICH REDUCE COST WHILE INCREASING QUALITY. THAT'S MY GREATEST CHALLENGE.

WE MUST INCREASE THE EFFECTIVENESS OF OUR ACQUISITION PROCESS BY MAINTAINING THE STABILITY OF OUR HIGH PRIORITY PROGRAMS. TO ACCOMPLISH THIS, WE CAN MAKE EVEN MORE USE OF MULTI-YEAR PROCUREMENTS. MULTI-YEAR PROCUREMENT IS ONE OF THE ORIGINAL 32 INITIATIVES PROPOSED BY THEN DEPUTY SECRETARY CARLUCCI AND HAS BEEN PURSUED VIGOROUSLY BY THE DEPARTMENT. SINCE FY 1982 WE HAVE PROPOSED 74 MULTI-YEAR CANDIDATES AND THE CONGRESS HAS APPROVED 50. THE TOTAL SAVINGS FROM THOSE 50 PROGRAMS WILL EXCEED $7.5 BILLION. IN OUR FY 1989 BUDGET WE HAVE PROPOSED SEVEN ADDITIONAL MULTI-YEAR CANDIDATES THAT WILL GENERATE SAVINGS TOTALING $943 MILLION.

MULTI-YEAR CONTRACTS REDUCE COST. REDUCING COST IS THE NAME OF THE GAME. I URGE YOU NOT ONLY TO SUPPORT OUR MULTI-YEAR REQUESTS, BUT TO RECONSIDER WHETHER WE SHOULD FOREGO OPPORTUNITIES FOR AVAILABLE SAVINGS FOR POTENTIAL MULTI-YEAR CANDIDATES ONLY BECAUSE THEY ARE BELOW THE MANDATED 12% COST SAVINGS THRESHOLD. EVERY PENNY IS IMPORTANT. THOSE PENNIES BECOME BILLIONS TOO QUICKLY TO BE IGNORED.

WE ARE ALSO COMMITTED TO PURSUING EFFECTIVE ECONOMIC PRODUCTION RATES. ECONOMIC PRODUCTION RATES PRODUCE SAVINGS BY ALLOWING A CONTRACTOR TO TAKE ADVANTAGE OF TOOLING AND PLANT CAPACITY TO PRODUCE ADDITIONAL UNITS OF A SYSTEM AT A LOWER UNIT COST. OF 34 MAJOR DEFENSE ACQUISITION PROGRAMS IN OUR FY 1989 AMENDED BUDGET SUBMISSION, 30 ARE PLANNED FOR PROCUREMENT AT OR ABOVE THE MINIMUM ECONOMIC PRODUCTION RATE. THAT WAS TOUGH TO ACCOMPLISH WHILE CUTTING OUR BUDGET BY $33 BILLION. IT'S GOING TO BE EVEN TOUGHER TO MAINTAIN THESE RATES IN THE FUTURE. WE'RE STILL COMMITTED TO ACHIEVING ECONOMIC PRODUCTION RATES.

ADDITIONALLY, WE HAVE ESTABLISHED BASELINES FOR ALL OUR MAJOR DEFENSE ACQUISITION PROGRAMS IN FULL-SCALE DEVELOPMENT AND PRODUCTION. WE ARE USING THESE BASELINES FOR MANAGEMENT AND OVERSIGHT.

FINALLY, IN PARTNERSHIP WITH THE CONGRESS, WE HAVE BEGUN IDENTIFYING PROGRAMS FOR MILESTONE AUTHORIZATION. LAST YEAR, CONGRESS PROVIDED MILESTONE AUTHORIZATION FOR FOUR PROGRAMS: THE D-5 TRIDENT MISSILE, THE ARMY TACTICAL MISSILE SYSTEM, THE T-45TS TRAINING AIRCRAFT, AND THE MOBILE SUBSCRIBER EQUIPMENT. MILESTONE AUTHORIZATION ADDS STABILITY FOR SYSTEMS IN FULL SCALE DEVELOPMENT OR PRODUCTION. BUT MILESTONE AUTHORIZATION IS LIKE STOPPING SHORT OF THE MOUNTAIN PEAK AFTER A TREMENDOUS CLIMB. IF WE EVER EXPECT TO GET OVER THE HUMP, AND REAP THE SAVINGS THAT A STABLE RESOURCE ENVIRONMENT OFFERS, THEN WE MUST ALSO HAVE STABLE APPROPRIATIONS. BIENNIAL BUDGETS WOULD BE A GOOD FIRST STEP.

IN ADDITION TO A STABLE FISCAL ENVIRONMENT, ONE OF THE BEST WAYS TO INCREASE OUR EFFECTIVENESS IS TO USE THE PRESSURES OF THE MARKET PLACE. THE DEPARTMENT IS COMMITTED TO COMPETITIVE ACQUISITIONS WHERE THEY MAKE SENSE. IN THE AREA OF SPARE PARTS ALONE, THE USE OF COMPETITION AS WELL AS OTHER INITIATIVES SUCH AS IMPROVED SPARE PARTS PRICING RESULTED IN $1.5 BILLION IN SAVINGS IN FY 1987. ADDITIONALLY, FOR MAJOR SYSTEMS, WE ARE PURSUING VARIOUS APPROACHES SUCH AS TEAMING IN THE DEVELOPMENT PHASE AND DUAL-SOURCING IN THE PROCUREMENT PHASE. THESE TECHNIQUES NOT ONLY REDUCE COST, BUT CAN ALSO STRENGTHEN THE INDUSTRIAL BASE AND INCREASE SURGE CAPACITY, ENCOURAGE INNOVATIONS, IMPROVE THE LIKELIHOOD OF MEETING SCHEDULES, AND DECREASE THE INCENTIVE FOR CHANGES.

A NEW COMPETITION CONCEPT WE ARE INTRODUCING TO THE ACQUISITION VOCABULARY IS "COULD COST." COULD COST POSES THE CHALLENGES OF THE COMMERCIAL MARKETPLACE. THAT IS, WHAT COULD THE COST AND QUALITY OF A PRODUCT BE IF WE FUNDAMENTALLY CHANGE THE WAY WE DO BUSINESS. IT MEANS WORKING WITH THE CONTRACTOR TO ELIMINATE NON-VALUE ADDED WORK AND TO CONCENTRATE ON QUALITY AND COST. OUR PROTOTYPE DEMONSTRATIONS OF THE COULD COST CONCEPT ARE OFF AND RUNNING. THE NAVY IS APPLYING THE CONCEPT ON ITS D-5 TRIDENT MISSILE SYSTEM. ALL SIX OF THE PRIME CONTRACTORS WHO SUPPLY THE MAJOR SUBSYSTEMS OF THE D-5 ARE PARTICIPATING WITH THE NAVY IN THIS EFFORT. THE AIR FORCE IS EMPLOYING COULD COST ON THE ADVANCED TECHNOLOGY BOMBER. THE ARMY HAS CHOSEN THE BRADLEY FIGHTING VEHICLE AS ITS COULD COST PROTOTYPE AND WILL ALSO USE COULD COST TECHNIQUES ON THE APACHE, THE ADVANCED ANTITANK WEAPONS SYSTEM-MEDIUM (AAWS-M), AND AT A GOVERNMENT-OWNED CONTRACTOR-OPERATED AMMUNITION PLANT. IN EACH OF THESE PROGRAMS, GOVERNMENT AND INDUSTRY PEOPLE ARE SYSTEMATICALLY EXAMINING BUSINESS, CONTRACTUAL, AND TECHNICAL ASPECTS OF PROGRAMS IN SEARCH OF OPPORTUNITIES TO ELIMINATE UNNECESSARY SPECIFICATIONS AND TO STREAMLINE THE WAY WE DO BUSINESS; TO PRODUCE TOP QUALITY PRODUCTS AT THE LOWEST COST. INTEREST IN COULD COST IS BUILDING, AND WE EXPECT THERE WILL BE OTHER COULD COST DEMONSTRATIONS.

WE NEED YOUR HELP TO STABILIZE OUR PROGRAMS AND TO SUPPORT OUR EFFORTS TO INCREASE OUR EFFECTIVENESS. I LOOK FORWARD TO WORKING WITH ALL OF YOU.

THANK YOU AND I WOULD BE PLEASED TO ADDRESS ANY QUESTIONS YOU MIGHT HAVE.

INTRODUCTION OF WITNESSES

Chairman STENNIS. All right, sir, are you prepared now, Mr. Christie? Do you have a statement that you want to make to the committee?

Mr. CHRISTIE. No, Senator. I have no statement to make.

Dr. COSTELLO. We will share the answers. It is better that way.

Mr. CHRISTIE. I get some of the hard ones.

[Laughter.]

Chairman STENNIS. Very well.

If the Senator from Alaska were here, we would turn to him now for whatever questions he would wish to ask, but he is not. We are sure he will be here later.

So instead, I will turn to Senator Johnston, and we will call on him for any questions on any subject that is related here that is an issue or could be an issue.

Senator Johnston.

Senator JOHNSTON. I thank you very much, Mr. Chairman.

Welcome to the committee, Dr. Costello. We are glad to have you on board.

MULTIYEAR PROCUREMENT

I am very pleased that Secretary Carlucci has elevated this position, and as I understand it, is giving you full support. We have long felt that our Under Secretary for Acquisition, properly supported, is a move greatly needed. I am very pleased that you are pushing multiyear, that you are pushing rates of acquisition that are optimum. As you well know, we have wasted just an incredible amount of money in the last few years with non-economic rates of acquisition; also in building redundant systems.

Really, the Congress and DOD have failed to make some choices. We just cannot make up our minds. We are still doing a little of that. I mean, we are doing it, for example, on the rail mobile MX and the Midgetman. Secretary Carlucci very much wants to make a decision, but Congress will not quite let him make that decision, and I very much applaud him for that.

Now, I know, Secretary Costello, having a strong background in the private sector with GM, that you are a strong proponent of competition, and indeed, you were talking about dual sourcing.

DDG-51 PROGRAM

Now, one of my principal interests is the DDG-51 program. You have stated in the past, or it has been stated that the appropriate rate for acquisition of the DDG-51 would be five per year, and yet there are only three in this budget.

Would you speak to that apparent discrepancy?

Dr. COSTELLO. We will talk more about economic production rates, and that an economic production rate is not a fixed number. If you are looking maybe at 1000, it may range from 600 to 1200 or maybe even more than that, so that it is not a number.

With regard to the DDG–51, especially looking at the shipbuilding industry in the United States, five is a better number than three, but fiscal constraints do finally impact us. We went through with the prioritization and said that three is really all we had the money for, regardless of the benefits of broader construction. The shipbuilding industry, as you know, Senator, is one of our most critical areas in the defense base. We are the only customer today, so we look at every decision very, very carefully in cooperation, obviously, with the Navy.

AEGIS PROGRAM

Senator JOHNSTON. As you know, as part of Federal law now, we require that for the fiscal year 1989 buy on the Aegis, that those be put out for competitive bids. Plans are going along apace for that RFP, are they not?

Dr. COSTELLO. Yes.

Senator JOHNSTON. And you support competition in that Aegis program, I take it.

Dr. COSTELLO. There are a limited number of competitors, people who would be qualified for a program of that size. The Navy has done an outstanding job in going to competitive sourcing for their main acquisitions, especially with shipbuilding.

Senator JOHNSTON. All right.

Well, there is a move now to restrict that competition. I do not know whether you are familiar with that.

Dr. COSTELLO. You have to look at qualified bidders.

Senator JOHNSTON. Right. Of course, that is always inherent, but the more competition with qualified bidders, the better off we are, are we not?

Dr. COSTELLO. I can give you some specific insights. In most cases we can say the more bidders the better. It may cost us in some cases to have too many people involved in the production of certain items because of the capital resources required. We pay for those capital resources So it may not be advantageous to bring somebody new into that business. It would be better——

Senator JOHNSTON. Pay a higher price?

Dr. COSTELLO. It would be perhaps better to ensure that we have adequate competition between the qualified bidders.

Senator JOHNSTON. All right, and that is proceeding now with proper competition.

Dr. COSTELLO. To my knowledge it is, yes.

Senator JOHNSTON. In other words, there is no need to change the law now with respect to that DDG–51.

Dr. COSTELLO. I would say I do not see any need to change the law, no sir,

Senator JOHNSTON. Good. Thank you.

SHIPBUILDING BUDGET REDUCTIONS

The Department has reduced shipbuilding from $11.8 billion to $9.1 billion, which is a reduction of 23 percent in the amended fiscal year 1989 budget.

What will be the effect on our domestic shipyards from that kind of reduction?

Dr. COSTELLO. I think I already indicated to you that that is one of our most sensitive areas. We have to be extremely careful as to any changes we make in the shipbuilding area because we are basically the only customer for significant new construction. So that has to have an impact on the shipbuilding industry in the United States, a 20-percent impact on the shipbuilding industry in the United States.

Senator JOHNSTON. Is that a prudent thing to do, to reduce that much in 1 year? I mean, the whole defense budget was not reduced by that magnitude.

Dr. COSTELLO. You have to look at the specific priorities, and the Navy has firm commitments and firm requirements. We have to support readiness. We are down to making choices between readiness and another ship, and the decisions were made that we would support readiness, which was well borne out in the last week.

Senator JOHNSTON. When Mr. Godwin left the job as Under Secretary for Acquisition, he complained of a lack of information and authority to do the job.

I take it under Secretary Carlucci you have not had those problems.

Dr. COSTELLO. I have not had those problems. I think that Mr. Godwin approached the job a little differently than I firmly believe that direct participation with the user, in this case the Services, with the Joint Chiefs of Staff is essential. The organizational structure that Mr. Godwin helped put in place, which is the Defense Acquisition Board and its committees, is performing and functioning very well. We have strong support from both Secretary Carlucci and certainly Deputy Secretary Taft, as well as the Service Secretaries and Service Acquisition Executives.

CONSOLIDATION OF REDUNDANT SYSTEMS

Senator JOHNSTON. Dr. Costello, this committee continues to be frustrated by what appear to be redundant systems by the services. Last year the appropriations bill attempted to consolidate some of these programs under OSD control until the duplication could be sorted out. We determined that at least four RDT&E areas exemplified the problems of this redundancy. They were remotely-piloted vehicles, stand-off air-to-surface weapons, electronic warfare systems, antiarmor missile systems.

What is being done to set these priorities and save money in this area of obvious duplication?

Dr. COSTELLO. As we look in retrospect at a lot of efforts in this area of the Department, the Office of the Secretary of Defense, the technical people, were directed towards program advocacy. They had become program advocates. When I took over this responsibility, I suggested to Secretary Carlucci that we had to make a change, that they really had to become functional managers for a broad area of a variety of programs, and that their responsibility as a functional head would be to advise the Deputy Under Secretaries and also the Chairmen of the Defense Acquisition Committees. Their job is to integrate, to lay out a strategy, and to integrate all the weapons systems to avoid duplication.

So instead of looking at one program at a time, their responsibility is to look at the variety of programs to insure that we do not duplicate, that we have a matrix of programs that is integrated and self-supporting.

You mentioned remotely piloted vehicles. We have taken specific actions on those programs. Dr. Duncan, the Director, Defense Research and Engineering, chairs an executive committee consisting of all the services and the user, including people from the Joint Chiefs of Staff, to look at the programs, to integrate those programs, to eliminate duplication, to establish priorities. We have selected in that case the Navy to be the lead service, to implement and manage the specifics of the program. We think that is a very effective way to go.

In some other activities we have taken and moved program management from OSD so that OSD can concentrate on systems and oversight. We have taken some of these other activities and put them into DARPA, the Defense Advanced Research Projects Agency. They are project people. So we are going to clear the decks and pay attention to the responsible job we have for strategy, policy, and monitoring the conformance of the services' activities according to the policy and strategy that we are formulating.

Senator JOHNSTON. You give that a high priority, do you, the avoiding of redundancy?

Dr. COSTELLO. Absolutely. We do not have money for redundancy.

SDI PROGRAM

Senator JOHNSTON. Doctor, you do not have any responsibility in the SDI field, do you?

Dr. COSTELLO. Yes, I do, sir.

Senator JOHNSTON. You do?

Dr. COSTELLO. Yes, I do.

Senator JOHNSTON. Are you reviewing that program with respect to goals and what it is they are trying to accomplish? Because frankly, I think there has been some confusion and there has been some change in dynamism as to what the goals are.

Dr. COSTELLO. The SDI Program comes under the auspices of the Defense Acquisition Board, and we review the mission that has been established and supported by the Joint Chiefs and the Joint Requirements Oversight Council. We are looking at the program, how its programs are structured. I happen to be responsible for compliance review, so we are looking at compliance. We are looking at the schedule of the programs and the acquisition processes that they use. We also are supporting them with reviews by the Defense Science Board. So they get a lot of review.

Senator JOHNSTON. And has your office been in that—played that role with respect to SDI all along?

Dr. COSTELLO. There has been a gradual shift. I think we have taken a more substantial role in the last few months.

Senator JOHNSTON. Now, you did issue a report, a rather critical report some months ago, did you not?

Was that not——

Dr. COSTELLO. We had a Defense Science Board report from a study group we convened last summer. We have also just concluded another Defense Science Board study that was started in January.

Senator JOHNSTON. Where they spoke about costs, saying that cost goals were sort of illusory and two or three other comments of that sort?

Dr. COSTELLO. General Abrahamson and I talked directly to that yesterday before the Senate Armed Services Subcommittee for Strategic Warfare.

Senator JOHNSTON. And I think you have also certified that all the tests are within ABM compliance.

Dr. COSTELLO. Yes, they are.

Senator JOHNSTON. Even the strict interpretation.

Dr. COSTELLO. We testified to that yesterday.

Senator JOHNSTON. Well, that is good to hear.

Thank you very much, Mr. Chairman.

Chairman STENNIS. Thank you.

Senator Weicker, we are glad to have you come in, sir.

Senator WEICKER. Thank you very much, Mr. Secretary.

Chairman STENNIS. We appreciate that you will have something to offer.

Senator WEICKER. I just have a very brief line of questioning that I wanted to pursue with Mr. Costello since today.

DISCOUNT AIR FORCES TO GOVERNMENT PERSONNEL

Dr. Costello, the Inspector General of the Department of Defense has identified a way to save $135 million annually, authorizing the Department of Defense contractors to take advantage of discount air fares available to government personnel.

On May 12, 1987, the Inspector General of the Department of Defense issued a report on the subject entitled "Final Report on the Audit of Contractors' Use of Government Transportation Requests, No. 87-145."

Are you familiar with that report?

Dr. COSTELLO. I am familiar with the report. At that time I was the Assistant Secretary for Production and Logistics.

Senator WEICKER. Now, as I understand it, in 1984–1985 the GSA signed agreements with the airlines that permitted DOD contractors working on government cost-reimbursible contracts, unconditional use of government discount air fares. However, in late 1987 the airlines withdrew those agreements.

Why were those agreements terminated? Can you tell me that?

Dr. Costello. I cannot answer that directly. I will have to answer that for the record.

[The information follows:]

Production Rates

These agreements are contained in a clause to the contracts that the government has with the airlines for discounted air fares between various city pairs. The clause asks the airlines to make the government discount air fares available to cost reimbursable contractors on a "voluntary" basis. This provision is currently in effect and has been in place since 1983. While cost reimbursable contractors have been asked to use these fares, most of the airlines have refused to make the fares available to nongovernmental employees. The airlines are concerned that extending the fares beyond the federal work force will open the system to abuse and loss of revenue. As a result, many of the airlines have advised us that they would terminate their participation in the discount fare program if the government made this a mandatory requirement for the airlines.

IG REACTION TO TERMINATED AGREEMENTS

Senator Weicker. What has the Inspector General suggested with regard to this matter, do you know?

Dr. Costello. I will still have to find out what the current status of that effort is, Senator.

Senator Weicker. All right.

I may offer an amendment. You know, this is a lot of money, $135 million is a big chunk of dough, maybe not to the Department of Defense, but I will tell you, we can run most of the other departments just on that money.

Dr. Costello. It is a lot to anybody.

Senator Weicker. And this is money that has been identified in the past as being capable of being saved.

I think you are well aware of it, the Inspector General is well aware of it.

Really, what I would like to do is to come back at it, thanks to both of you—it is nothing that originates with me. This is the Inspector General's idea.

I have an amendment which I might offer either in committee or on the floor, and I would very much appreciate having your remarks on that amendment, not here, but for submission to the record, but I really would like to follow through on this if I could.

Dr. Costello. We will be glad to give you a review of your proposed amendment and also give you a status of what is the current discount rate.

As I remember, though, as I think we are all well aware, the discount rate structure in the airlines is so confusing today that often when I get a ticket through the best negotiated long term basis, my wife can ride next to me either at a much lower rate because it was a hot tour that they wanted to promote, or at a rate twice as much as I am paying.

So it may not be as cost effective as was originally indicated, but we will get data back here.

Senator WEICKER. Well, I am sure there are fluctuations. I agree with you. I think we all recognize that, but still, it seemed to me to be something not to leave alone, rather, within the context of these times, to see whether or not—hey, if it is $100 million instead of $135 million, I am sure the taxpayers would appreciate that also. So let's just go at it.

Dr. COSTELLO. We will.

Senator WEICKER. Fine, thank you very much.

Thank you, Mr. Chairman.

REDUCTION IN SHIPBUILDING

Chairman STENNIS. Now, Mr. Secretary, let me pose this question. You appear to be making a reduction in shipbuilding of almost 23 percent in 1 year. That is what the figures show, as I understand them. Now, that is just too much.

Now, my point is you have not done anything willfully wrong, but this reduction has been nearly 23 percent. That hits mighty hard and fast effectively.

I am going to ask you to give that your personal attention, not preference attention but personal attention. Those shipyards are an asset to the Department of Defense. I have seen that demonstrated so much.

I remember a man who was a favorite Senator of mine, and the last conversation he and I had where he pointed out what an asset a first class ship was to the Navy.

Would you comment on particularly my point that I made there about the 23-percent cut?

Dr. COSTELLO. The numbers may be slightly distorted because we had to load it with two carriers the prior year, so I am not sure where the impact of the carrier funding occurs.

Mr. CHRISTIE. I think your $11.3 billion was what we had projected in the earlier budget for 1989, and we are now in at $9.13 billion. I think it was $11.3 billion or $11.4 billion. So we reduced the shipbuilding account by $2.3 billion or $2.4 billion. In that reduction was $800 million which we were able to save in the 1989 projection because the Congress had fully funded the two carriers. You see, we had $800 million——

Chairman STENNIS. Excuse me. The Congress what?

Mr. CHRISTIE. Had fully funded the two carriers in 1988. That permitted us to take $800 million out of the 1989 budget immediately because of the savings that you permitted us to accrue. So that leaves a net reduction of some $1.3 billion, $1.4 billion.

Now, whatever that is, 11, 12, or 13 percent, it is not that far out of line with the reduction in the top line, and we still are proposing to build 19 new ships in the budget request. If I recall correctly, that is what we got in 1988.

So yes, there is a reduction in the shipbuilding account. I do not think it is that far out of line with the overall reduction in the top line. Certainly the considerations you were talking about concerning the industrial base, the shipbuilding base and so forth are, in fact, a serious consideration that must be taken into account.

Dr. Costello. In fact, obviously the whole executive branch has been concerned about the shipbuilding industry. The Commission on Merchant Marine and Defense is looking at ship construction. I testified before that Commission. We have met with the Commission a number of times since. It is a very, very significant problem, and it is one of my personal concerns, sir.

Chairman Stennis. Well, I appreciate your attitude about it. It is serious. It is serious for the Navy and for you in the Department of Defense, and for all.

I think the situation would be helped some, cleared up some, if you gentlemen could give it your personal attention and go into this and follow up on it. See if you cannot make an adjustment there that would be fairer and still effective.

I am not wanting to tear down anything. I want these folks to work. I want them to improve themselves. We have got to have them.

Would you do that?

Dr. Costello. We will take your advice, and we will continue to look at the shipbuilding programs with the concerns we all have about the stability of that shipbuilding industry.

Chairman Stennis. Now, I am not asking for any favoritism for any one particular ship or two particular ships or anything like that. You know that, I hope.

You have done an amazing amount of work since you came into this position, and I hope you find time to take another look at this and related matters, to ensure that they have not been the victim of an error. I am not suggesting anything was intentionally wrong.

Senator Johnston, do you have anything further?

Senator Johnston. Yes, sir, just a couple more questions.

Chairman Stennis. Go right ahead, then, sir.

OSPREY PROGRAM

Senator Johnston. Dr. Costello, the Osprey Program has met with great enthusiasm by various services, particularly the Marines, and yet some do not appear to be bellying up to the bar with their purchases sufficiently to justify what might be a proper acquisition rate.

Can you speak to that?

Dr. Costello. General Gray has asked me to help on the V–22 Osprey program. We are taking some time to meet with the contractors and to look directly at applying the concepts of Could Cost to the V-22 program.

We think there will be more customers if we can drive that cost down. It is a matter of the options that the Services have. Is it cheaper for them to use what they have or to acquire a very outstanding and flexible aircraft and a totally new concept?

So we are working with the Marines directly, with General Gray. He and I have determined it will be a model Could Cost program, and we should benefit from that by having lower costs for the other users as well.

Senator JOHNSTON. Well. I just hope it does not get snagged on that not-invented-here syndrome where the Navy and the Army, you know, say it is a great machine but we didn't come up with the idea, and so therefore, they went to go off and develop their own. I hope that is not a problem with that program because it looks to me like in the Navy, for example, it would just be a fabulous ASW aircraft, great aircraft for the Army on all kinds of tactical missions. It just looks like it could virtually revolutionize all three services.

Dr. COSTELLO. It has a great deal of potential, and I want to see that the potential is realized and not hampered by undue costs.

And Senator, the Chairman has said take on a personal issue, and I have taken that on as a personal issue because I think it has unique advantages to all the Services.

AV-8B PROGRAM

Senator JOHNSTON. On the AV-8B program, there are two problems there. One, the acquisition rate, I understand, is 24, when the optimum acquisition rate or minimum optimum rate is 32. And plus, we do not have the multiyear, and I understand one of the problems, one of the criteria for multiyear is that it is a stable program.

Could you speak first to the rate of acquisition, and second, to the question of whether that program is likely to be terminated in 1990?

Dr. COSTELLO. No. 1, we have asked it to be included among the multiyear programs for this year's submission, so we would look for it for 1989 and 1990, certainly.

We talked about the ideal production rate, and there is some flexibility in those numbers. Our number happens to be about 24, which is the number we intend to procure. So I am not sure from where the number 36 came. But we did look at the economic production rate.

Senator JOHNSTON. And 24 is sufficient?

Dr. COSTELLO. That is the number we have been using.

Senator JOHNSTON. I think that 36 number came from CBO.

Dr. COSTELLO. It may have.

Senator JOHNSTON. They are wrong?

Dr. COSTELLO. No. I said that there is a judgment factor in saying where you are.

As you come down the production curve, you come to a knee in the curve, and if you get to the knee in the curve, that says you have achieved the greatest reduction in cost or eliminated the additional costs for fewer numbers, and we say that 24 is in that area.

Now, as you go out, that curve flattens out so you can pick some points a little farther down that curve if you care to. It depends on the arithmetic you want to use.

F-15 AND F-16 ACQUISITION RATES

Senator JOHNSTON. Could you speak to the acquisition rates of the F-15 and F-16. The F-15 people say they have not equalled minimum rates, and they say that the F-16 has exceeded them.

What is your response to that?

Dr. COSTELLO. Using our data, the economic production rates that we saw in the F-15 were 36 per year, and the F-16 was 180 per year. Those are the rates that we are looking forward to in the amended budget submission.

ENVIRONMENTAL CLEAN-UP

Senator JOHNSTON. Just one final comment. I know your office has worked hard on this problem of environmental clean-up. It seems to me that this is becoming a bigger and bigger problem all the time, and I know you have worked well on it, I want you to know we have some experts in my state who are working on it down at Tulane and Xavier University, and I just want to encourage you to continue to work efficiently and bravely for that program.

Dr. COSTELLO. When I first took on the job as Assistant Secretary, I had been responsible for a lot of environmental concerns with General Motors, so I let everybody know that that was a major issue. It was an issue that was here today, and it was going to stay with us, and we had better get on with it in an effective way.

Senator JOHNSTON. And particularly with that nuclear clean-up, it is really going to cost billions of dollars, and it is a very frightening thing. My Energy Committee has got to deal with that, and I do not know where we are going to get the money, but we are going to have to do some very creative things.

Dr. COSTELLO. I think your term "creative" is very appropriate.

Senator JOHNSTON. Thank you, Dr. Costello.

Thank you, Mr. Chairman.

Chairman STENNIS. Thank you.

I need unanimous consent that this set of questions by Senator Robert Byrd of West Virginia, be included in the record. Any objection?

[No response.]

Chairman STENNIS. The Chair hears none and it is so ordered.

Now, Senator Stevens, we welcome you to this committee, as always. We extend to you a special welcome, and would you please proceed with your questions or your statement as you wish.

Senator STEVENS. Thank you, Mr. Chairman.

I have been over at another Rules Committee meeting.

V-22 AIRCRAFT

I am sorry that I was not here to hear your statement, Mr. Secretary. I will read it. Staff has reviewed it.

I have some questions about the V-22. That started off as a joint service procurement and now it is just the Marines that want it. It appears to me that it is a revolutionary concept in military aircraft, and yet isn't this now in the area of instability under your effective acquisition concept?

Dr. COSTELLO. We were just discussing that issue with Senator Johnston. The Marines have a major effort, obviously, and a major commitment to the V-22 program. The Army and the Navy look at it as an affordability issue.

I have taken it on as a personal effort to work with General Gray, the Commandant of the Marine Corps, to apply the concepts we are calling Could Cost to drive that cost down so that it can be an effective tool for both the Navy and the Army in the missions for which that type of activity is required.

Senator STEVENS. Well, does that not come about through across the board acquisition by the Department, according to the original plan, and having a cost effectiveness that comes from coordinated acquisition? It seems to me that someone ought to be looking at the Army and the Navy and telling them that they cannot put instability into a program like this by withdrawing.

They were originally part of the acquisition.

Dr. COSTELLO. But they do not have total control of their budget either, Senator, and it becomes an affordability issue. They may have to do with what they have.

Our job is to insure that we have an effective acquisition program to support the procurement of the V-22 to meet the mission requirements.

LHX PROGRAM

Senator STEVENS. Well, if they took the money and put it in LHX, it is an even worse situation.

Dr. COSTELLO. No, sir. The LHX has been basically killed. I was very deeply involved in that program. The Army did not put the money back into the LHX Program. We have an overall Army aviation program that we are looking at right now, and the V-22 will be a candidate for review in that program.

Senator STEVENS. But there is still an LHX in the bill before us.

Dr. COSTELLO. Mr. Christie said be careful what I say on whether I say killed or not.

Senator STEVENS. That is a rather historic comment. If it is dead, it is riding through the halls here rather actively. [Laughter.]

Dr. COSTELLO. They are ghosts. [Laughter.]

Senator STEVENS. Yes, and you do see ghosts around here once in a while.

Dr. COSTELLO. Restructured is the term I agreed to use, which means that we do not have a major funding program now for an airframe and other associated major developments for what was the LHX.

Senator STEVENS. Our own perestroika. It is restructured out there.

I have got to tell you, I think the real problem is the V-22 is going to go the way as the rest of them has, because it is now getting close to being cost ineffective due to its lack of support by all services.

Dr. COSTELLO. The cost issue is a major driver, yes; and that is why I am working with General Gray. I said I would work with him on a Could Cost, a substantial cost reduction program.

It is a good test of the concept. As to whether the Air Force, the Navy, and the Army feel they can afford it for the specific missions required, we want to get it so that it is obviously cost effective for its missions.

Senator STEVENS. I have not been around here as long as the chairman has been, that is for sure. But the longer I am around here, the more I realize that a lot of our costs are associated with changes that are made in our programs after they are initiated.

How will your Could Cost initiative deal with the changes that are made? We saw them made in terms of the M-1. We have seen them made in terms of the missiles. We are seeing it again in some of the classified programs.

Can your Could Cost program give us greater control over changes that are made after the lines are established?

Dr. COSTELLO. Could Cost starts in the engineering phase, and that is where it has to begin. I have worked on programs that died because we made so many changes. They were excellent technical programs, but we never reached a goal because the goal was always moved and changed.

Could Cost says that we have to take a look at the mission requirement, at the fundamental engineering that we do, to ensure that we can upgrade to meet new challenges or to incorporate new technology, as well as new manufacturing processes, new approaches to quality, so we can reduce the whole logistics chain downstream.

And it is true, we have to spend a lot more time up front and make sure we know where we are going, because it has been too easy to put in changes that have been cost killers.

M-1 TANK

Senator STEVENS. Am I led to believe—am I correct in my belief, that we are going to have to put something new on the M-1 to protect it from this new Soviet artillery?

Dr. COSTELLO. There are some special classified programs that could answer that question, sir.

Senator STEVENS. We cannot get into that, I know, and my good friend and assistant tells me that I should stay away from that.

But isn't the concept that we are dealing with in terms of those changes part of our problem? That is, pyramiding these costs. We have the same thing with the Bradley Fighting Vehicle, and now we are going to have that with the M-1 tank.

I have just gone through a series of classified briefings and each one of the production dates appear to be moved downstream because of changes.

Is it your job to keep track of the changes?

Dr. COSTELLO. It is really the program manager's job, but I have an influence.

I will take you back to my career at General Motors. I suffered the same kinds of ills of change-it is by the engineers, and I wanted to hold the engineers' feet to the fire and say: "I cannot afford your changes any more; I want a quality program, and the engineers have to give me a program that I can make and that will still meet the threat that was defined when I started my design."

I also have to have an ability to match new threats as they come along, because the threats change. So I have to develop a concept that encompasses flexibility in my engineering design to incorporate new technology to meet new threats.

And that is a cultural change for our engineering profession. It is difficult. We like to deal with fixed realities. It is easier that way. And then to meet a new threat, I will have a totally new system. That is what we have done.

It has been costly. Now, I am saying, "define the mission carefully, make sure we know where we are going, do a lot of work up front to define what this contract means and what we expect to get out of it, and then we can achieve a substantial low cost answer to our requirement."

I have an example. I brought in Mr. Bert Rutan. He is the brother of the man who flew the Voyager aircraft that Bert designed and built in California.

We had a contract between DARPA and Mr. Rutan. It was for about $2.5 million with a 2-year timeframe. We spent all of the time up front deciding what we needed, what we expected, not only for technical aspects of the program, but also for the management aspects of the program.

It was a clean sheet of paper. He designed, built, and flew an airplane within the contract. So we can do things and do them right.

We used revolutionary approaches, radical approaches, to structural design. I am using that as an example for the others to say: "We can do things if we set down, plan carefully up front what we want to get out of it, and carefully structure the entire program to do that job." I think that is exceptional.

MULTIYEAR CONTRACTING

Senator STEVENS. What if we would say that multi-year contract authority is canceled if there is a change? I am told, for instance, on the F–16 we are going to spend a billion dollars more in 1989 for the same number of airplanes, 180, because of the changes that have been incorporated, notwithstanding the fact that it is under multiyear contract.

Dr. COSTELLO. I think if we passed a statute saying we could not have change we would die. We could not live without change. What we need to do is manage change more effectively.

Senator STEVENS. But under a multiyear contract, we do not review those changes at all. You have multiyear authority. We just put up the money. We have no control. You have a multiyear contract. The minute you get it signed up, you are going to get your money, it is lined in, and we do not have any say in the changes, of the increasing costs at all.

Dr. COSTELLO. I am saying that we in the Department have to manage change more effectively, and that is a responsibility that I think you have given us.

Senator STEVENS. Well, I should not belabor this, especially coming in so late. I should not belabor it, but it does seem to me that somehow or other it is the increased costs brought about by these changes that is plaguing us now, and that we have very little control over those changes. We have little say-so now once they get a multiyear contract.

The inflexibility of that is in my judgment going to lead me to say no to your request for expanding the multiyear contract authority. I cannot see why we should give you more multiyear contract authority and thereby have less control over the increased costs of the items involved.

Dr. COSTELLO. I think you have unusual costs. You give us a top line. We have to live within that top line. That says we must drive the cost of change down or the cost of what we buy down.

Senator STEVENS. You just drive the numbers down, rather than the costs. We are going to end up by getting fewer items for the contract commitment.

Dr. COSTELLO. In order for us to live within the constraints we have, we must drive the cost down. Otherwise, we will not have the readiness, sustainability, and the deterrence that we must have.

Our mission is to drive those costs down. We have a major effort to do just that. We have prototype programs in each of the Services, and they are effective because some of the contractors are now getting together to figure out how they can help us drive the costs down. It is in their interests also.

INVOLVEMENT OF INDUSTRY IN COST-SAVING MEASURES

Senator STEVENS. I thank you, Mr. Chairman. And I thank you, sir. I am sorry to be late.

When I was chairman of the subcommittee, we tried to initiate some things that would bring in up-front funding from the industry and to get them more involved in cost control as the projects were initiated and the programs were initiated, so that it would be more cost effective when we entered into full scale production.

I am not sure we have had that follow-on. I would hope we could, because with the budget we have now—I understand from Mr. Keefe you made your comments about that. But there is no question that we are paying somewhere around $290 billion for the functions that come before this committee for a period of years.

I think that is unfortunate, but it is true. And under the circumstances, if the changes increase the cost of these items, we are just going to have to decrease and decrease and decrease the number of systems we can modernize.

Dr. COSTELLO. If I might go back to the testimony that I had, we indicated that the multiyear program authority that we have been given to date already has saved us about $7.9 billion.

Without giving undue credit to Norm Augustine, he said if we continue at the present rate we will have one airplane that will do everything by the year 2050. I do not think that is a practical approach. So you and I happen to agree, and he agrees with us also.

We have to do everything on an economic basis. We cannot have change for change sake. It has to be cost effective, and that is what we are seeking.

Senator STEVENS. I read his comments. The only thing I would add to it is the plane would never fly because it would go back in and re-enter the line every year to get the new changes that had been authorized.

[Laughter.]

Senator STEVENS. Thank you, Mr. Chairman.

I do have a series of questions also and a statement by Senator D'Amato. I would like those to be put into the record, and ask the witnesses to respond to those questions.

PREPARED STATEMENT OF SENATOR D'AMATO

Chairman STENNIS. All right. The statement of Senator D'Amato will be placed in the record, without objection. It is so ordered.

[The statement follows:]

PREPARED STATEMENT OF HON. ALFONSE D'AMATO

U.S. SENATOR FROM NEW YORK

Mr. Chairman I welcome to this hearing the Under Secretary of Defense for Acquisition, Robert B. Costello.

According to the budget recently submitted to Congress for fiscal year 1989, it will be a year of fiscal constraint for our national defense. Apparently security concerns have given way to financial pressures to balance the budget. But while we must be concerned about the size of the federal deficit, we cannot ignore the increasing level of hostile activity occurring around the globe. Recent events in Panama and the Middle East—including just yesterday in the Persian Gulf—remind us of the scope of our commitments and make us question the prudence of these defense cuts.

In recent weeks we have heard Deputy Secretary of Defense Taft and the Secretaries of the three services express concern about decreasing funding. They are united in their hope to shelter our service men and women from the effect of these cutbacks. The morale and financial well-being of our uniformed men and women has been given the first priority. I applaud this decision. However, under existing constraints, this requires even larger cuts in other accounts. With the need to maintain our technological edge over the Soviets, RDT&E was also spared much of the fiscal pain. This leaves the procurement account as the only alternative to bear disproportionate reduction.

You have been given the unenviable task of maintaining an effective acquisition system while absorbing the bulk of the budgetary cut. Your painful decision to terminate marginal systems and to delay others should yield measurable results. The inability to make significant cuts in marginal programs has been a problem that has plagued DOD in the past. It's good to see that tough decisions are being made to eliminate programs that yield little or no benefit, and I congratulate you. Programs must not be allowed to develop a life of their own as has happened in past years. This has been a cause of much DOD overspending.

I also support your decision to bring additional pressures of the marketplace into the acquisition process. We must constantly review ways to decrease unit cost to the taxpayer. Approaches such as dual-sourcing should reduce cost while maintaining our domestic industrial base.

I look forward to working with you to maintain an adequate acquisition system in the current fiscal environment.

Thank you, Mr. Chairman.

CONCLUDING REMARKS

Chairman STENNIS. Does the committee have any requests now from any other members of the committee or of those who are not members of the committee for an appearance or for anything with reference to this hearing?

Mr. SULLIVAN. No, sir, there is no request.

Chairman STENNIS. All right, there is no request. Well then, gentlemen, I thank you all very much for giving us this information and for your appearing here today. I know that I am impressed with the Department.

Do you have anything further now to say?

Dr. COSTELLO. No, sir, except that we look forward to answering the questions for the record as requested.

Chairman STENNIS. I beg your pardon?

Dr. COSTELLO. We look forward to getting those questions for the record, so that we may answer them. Thank you, Mr. Chairman.

Chairman STENNIS. Very well.

Well, I think that this is among the most important testimony that I have heard in a long time. Let us continue our hearings of this type.

We would appreciate your bringing to us any other matters that may come to your attention. And we thank you so very much for being here today. You have handled these matters well and constructively.

You have a large undertaking there that fits right into the local economy and they cannot be ignored. I am not talking about trying to get something as a gift for them or anything of that kind. This is serious business.

Well, you certainly have the thanks of this Committee. We will obviously be asking you to come back, and you too, sir.

Mr. CHRISTIE. Thank you.

Dr. COSTELLO. Thank you, Mr. Chairman.

Chairman STENNIS. We have notified the other members that if they have anything to file, they will have to do it today. That is the general practice rule.

Senator D'Amato, you are here now. I did not realize you had come in.

Senator D'AMATO. It is good to see you, Mr. Chairman. I understand Senator Stevens has submitted my questions for the record and I am deeply appreciative.

It is good to see the good doctor, and I have no further questions.

Chairman STENNIS. Well then, we are very glad that you got here anyway. We appreciate your coming.

Senator D'AMATO. Thank you, Mr. Chairman.

Chairman STENNIS. Are there any other matters, gentlemen, to come before the Committee today?

[No response.]

SUBMITTED QUESTIONS

Chairman STENNIS. The Chair hears no response.

Additional questions will be inserted in the record at this point.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

QUESTIONS SUBMITTED BY CHAIRMAN STENNIS

AIR FORCE AIRCRAFT PRODUCTION RATES

CBO examined production rates of defense weapons in November of last year. In their report, they noted that F-15 production has not equalled minimum economic rates, while F-16 production has exceeded minimum economic rates.

Question: Mr. Secretary, I assume you are familiar with this report. Do you agree with the calculations provided by CBO on these aircraft?

Answer: As the CBO stated in its report, there is no formula to indicate when a rate of production becomes uneconomical. The minimum economic rate depends on a number of factors, the most important of which is stability. We believe the F-15 and the F-16 are being produced at stable, economic rates based on requirements.

Question: Can you tell us why it makes sense to buy more F-16's than the minimum economic rate of production?

Answer: Procurement quantities are driven by requirements to modernize our forces and to meet the threat, not only by efficient production rates.

F-16 AIRCRAFT

Question: I understand we need to buy 175 tactical fighters a year to support 35 tactical fighter wings, yet the Air Force plans a third multi-year production contract for F-16 aircraft at 180 aircraft per year to begin in 1990. Why do we need to continue to buy 180 F-16's per year if we are only supporting a tactical fighter force of 35 wings?

Answer: Procurement of over 200 tactical fighters is required per year to support 35 tactical fighter wings considering not only the fighters in the squadrons but also maintenance and attrition. Our FY89 Amended Budget Submission includes enough F-15s and F-16s to meet our 35 wing requirements.

F-15E AIRCRAFT

Mr. Secretary, the F-15E has not been funded at an efficient rate of production for several years. In 1989, you have further reduced that program from 42 to 36 aircraft, adding $4 million to the price paid last year.

Question: Does this indicate you are decreasing your support for the program or adjusting the overall requirements for the F-15E?

Answer: The F-15E was developed to fulfill the requirement to conduct night/adverse weather deep interdiction while retaining air-to-air capability. Given the proposed INF reductions, the deep interdiction role of the F-15E becomes even more important. The F-15E is the only aircraft capable of destroying targets at longer ranges, which today can only be reached by the aging F-111 fleet. We are still reviewing out year plans in our budget review for the FY90 President's Budget. This review will consider F-15E requirements (including any yearly or total quantity changes) in terms of total funding constraints, INF treaty implications, overall force structure and deployment of other aircraft now in development.

Question: If it is merely to save money, why can't reductions be made in the F-16 production rate to restore a more efficient rate to the F-15E program?

Answer: Production rates are only one factor to be considered in determining the number and mix of aircraft to be acquired in any given fiscal year. Military requirements and the demonstrated capabilities of the aircraft are also primary considerations.

NAVY AIRCRAFT PRODUCTION

Navy aircraft funding has been reduced by 14% in the amended budget, from $10.25 billion to $8.98 billion. Nearly $1 billion was saved because of the A-6 termination and the decisions last year by the Congress to buy-out the AH-1W and HH-60A helicopter programs. Instead of buying back other programs the Defense Department chose to let aircraft procurement fall to very low levels.

Question: Mr. Secretary, can you tell us why you didn't choose to use some of the savings from the A-6 termination to pay for supporting minimum production rates on other Navy aircraft programs?

Answer: As a result of the budget summit agreement of November 1987, the President's request for procurement of Naval aircraft was reduced by 12.4% from $10.25 billion to $8.98 billion. The cost avoidance resulting from the A-6F termination was applied to partially meet the aircraft procurement budget reduction in order to maintain a balanced aircraft procurement plan within the limits of affordability. Program terminations were chosen in lieu of program stretch-outs, which would have resulted in uneconomical rates of production in many programs.

NAVY AIRCRAFT PRODUCTION RATES

According to CBO the minimum economic rates of production on the F/A-18 and AV-8B are 84 and 36 respectively. This budget request includes funding for 72 F/A-18 and 24 AV-8B.

Question: Mr. Secretary, what rationale can you provide for allowing F/A-18 and AV-8B production to fall below minimum economic rates?

Answer: As CBO itself admits, the concept of minimum economic production rate involves the application of judgment. The Department has determined that 72 aircraft per year is an economic rate for production for the F/A-18. The FY89 column of the FY88/89 President's Budget submitted in January 1987 showed a planned buy of 72 aircraft and that number has not changed in the Amended Budget Submission.

While a higher production rate would reduce unit cost, the FY89 Amended Budget Submission request for 24 AV-8B aircraft is consistent with the Congressional appropriation for FY88. Production of the AV-8B under a multi-year procurement will also reduce unit costs.

Question: At what point does program cancellation have to be considered in either of these programs, or other Navy aircraft, if we can only afford to support rates of production below the minimum levels?

Answer: Secretary Carlucci has stated that efficient acquisition is a top priority of the Department and that programs will be cancelled rather than stretched-out. The termination of the A-6F is an example of the Secretary's determination. Any time acquisition of a program becomes inefficient, cancellation is an option. However, program cancellation must be balanced against the need to meet the threat.

AV-8B MULTI-YEAR PRODUCTION

Last year, the Congress provided funds which would support a multi-year procurement on the AV-8B program, if the Defense Department supported the program and submitted documentation demonstrating the cost effectiveness of this program.

Question: Can you assure this committee that a multi-year strategy for 24 AV-8B aircraft is a cost effective alternative to annual purchases of 32 AV-8B aircraft at the minimum economic rate of production?

Answer: Congress has not supported our request for 32 AV-8B aircraft in the past and has given us only 24 aircraft. Our multi-year strategy based on an annual buy of 24 aircraft is cost effective.

Question: What are the estimated savings under this approach?

Answer: Savings on a three year multi-year buy of 24 aircraft per year is $124.0 million.

Question: Why is a multi-year buy at 24 aircraft a better alternative than a multi-year at 32 aircraft?

Answer: A multi-year buy of 32 aircraft per year would result in a lower unit cost than a multi-year buy of 24 aircraft per year. However, Congress has not supported an AV-8B buy of 32 aircraft per year as we have requested in the past.

Question: One of the requirements for approving a multi-year production is that the program is stable. There is some concern that the AV-8B is a candidate for termination in 1990. Can you unconditionally guarantee that the AV-8B program meets the test of stability?

Answer: No one can give an unconditional guarantee on the future particularly in a constrained budget environment. However, the Department supports the AV-8B and judged the program to be stable in asking for a multi-year.

Cost-Based Profit Policy

Question. Dr. Costello, on large, negotiated contracts where there is limited or no competition, DoD continues to pay 10 to 20 percent profit based upon total contractor production costs. This cost-based approach to profit is a negative incentive to reducing production costs, whether such reduction would come from industry efficiency or technology innovation. A contractor has incentives to keep costs as high as possible and therefore this profit policy is discriminating against the efficient contractors who have reduced production costs and is rewarding the inefficient contractors with higher profit payments.

With a cost-based profit policy, is there any incentive for contractors to modernize their facilities to become more efficient?

Answer. A cost-based profit policy provides no incentive for contractors to modernize their facilities to become more efficient. However, the profit policy currently used by the Department of Defense is not entirely based on cost. This policy was issued on August 1, 1987, after years of exhaustive study, public debate, and congressional oversight. The policy appropriately rewards investment in productivity enhancing capital equipment, adequately considers working capital requirements, and deemphasizes cost in the development of profit objectives. On an average basis, 40 percent of the profit objective is now based on contractor investment in capital assets (with the heaviest emphasis on productivity-enhancing capital equipment), 30 percent is based on contract type risk (including working capital requirements for the contract), and 30 percent is based on performance risk. The profit policy is fully integrated with the Department's financing policy, so that profit objectives automatically adjust to changes in progress payment rates or interest rates.

The profit policy applies to only about 25 percent of the contract dollars awarded each year by the Department. The average profit rate negotiated for these contracts was about 13 percent. More than 60 percent of the contract dollars awarded during fiscal year 1987 resulted from competition, where the marketplace determines profitability.

Question. What is DoD doing to change this cost-based profit policy?

Answer. See above answer.

Question: Dr. Costello, what are you doing to get the services to base their future facilitization expenditures on more realistic production rate estimates?

Answer: Production rates become unrealistic when there are too many programs in production for the amount of procurement funds available. This dilemma can be controlled in part by restricting the number of new starts and production initiations, which we now do at the early milestone decisions. It should be noted that when we postpone initial production, this in itself incurs cost due to economic adjustment increases and the cost of maintaining personnel skills and the supplier base. It is of utmost importance to realize the Defense budget projections made in previous years. Reduced funding is a strong impetus to lowering production rates across the board, which in turn leads to higher unit cost. Another means of attacking the realistic production rate/affordability problem is through our heavy emphasis on producibility and transition to production, which are strong contributors to a lower initial production unit cost.

Tooling and Test Equipment

Question. On average, what percent of contractor overhead is expenditures for tooling and test equipment and their continued operation?

Answer. We do not aggregate those kinds of numbers, but they would be available in individual contract files.

Efficient Production Rates

Question. Advocates always profess that higher production rates will save money. Is it not true that considerable money can also be saved if contractor's overhead is held to the minimum necessary for efficient production rates?

Answer. Yes, that is true. However, even more money can be saved if, in conjunction with controlling overhead costs, we also have a stable and realistic production rate.

WEAPON SYSTEM MODIFICATIONS

Question: Dr. Costello, the Congressional Budget Office has testified that higher production rates may increase the cost of modifications to weapon systems because it is cheaper to incorporate these modifications as units are produced rather than after the system has been fielded. In your opinion, is this a significant cost problem?

Answer: No, this is not a significant cost problem. We are holding down the cost of modifications by encouraging the use of block upgrades. Use of block upgrades provides more stable production which provides cost savings.

WEAPON SYSTEM OBSOLESCENCE

Dr. Costello, low production rates increase the number of years to fully equip the force with a new weapon system. For example, at current production rates, the CBO estimates it will take 27 more years to meet the inventory objective for the Infra-Red Maverick Missile Program.

Question: Will the Infra-Red Maverick still be effective in 27 years?

Answer: The Maverick missile has already undergone a number of modifications to extend its usefulness against a changing threat. The current Infra-Red Maverick will only be produced as long as it is able to meet the threat.

Question: What are you doing to address the issue of production rates and the effects of technological obsolescence?

Answer: In our budget submissions and out-year planning, we are proposing the most economic production rates for our weapon systems which make sense in terms of requirements, ability to meet the threat, and a constrained budget environment. The trade-off between rate and obsolescence is a constant concern in our program and budget deliberations.

ACQUISITION EXECUTIVE SYSTEM

Question: Dr. Costello the Packard Commission recommended a streamlined acquisition process in which authority would flow from the Service Acquisition Executive through the Program Executive Officer to the Program Manager. What is the status of the implementation of this concept within each of the Services?

Answer: Department Directives were issued in July 1986 calling for abbreviated reporting chains of command on program matters for all major acquisition programs. Significant emphasis was placed on there being only one layer of supervision [Program Executive Officer] between a Program Manager and Service Acquisition Executive.

This is not just an organizational change but a cultural change. It is a never ending process of improvement. Abbreviated chains were established, but we need to assess whether they are working as expected and are eliminating excessive management layers and reviews.

Fixed-Price Development Contracts

Dr. Costello, last year's Appropriations Bill requires you to make determinations in writing concerning program risk prior to awarding a fixed-price type development contract in excess of $10 million. The conferees also directed a single, DoD-wide policy on this issue.

Question: What have you done to set a DoD-wide policy?

Answer: DoD has clear policy on the choice of contract type for development programs. Part 35 of the Federal Acquisition Regulation and DoD Directive 5000.1, for example, prescribe the use of cost-type contracts for risky development efforts. In order to ensure that this policy would be followed, in December 1987 I issued a memorandum to the Service Acquisition Executives reiterating this position.

Question: How many fixed-price type development contracts have you approved so far this year?

Answer: As of the end of April, four. The four are: A-12 Full Scale Engineering Development; AN/BSY-2 Full Scale Engineering Development; HARM Low Cost Seeker Full Scale Engineering Development; and the Modular Control Equipment Pre-Planned Product Improvements Program.

Question: The Appropriations language also requires a quarterly report on obligations under such contracts. Has the first quarterly report been sent to Congress?

Answer: The first such report has been prepared and, as of the end of April, is undergoing normal review within the Department before being sent to Congress. It should be released in early May.

Dual Sourcing

Dr. Costello, the Department of Defense Inspector General has recently reported that an audit "clearly demonstrated that dual sourcing does not usually result in adequate price competition and that the services overstated the reported savings attributable to dual sourcing."

Question. Does this report suggest that the use of dual sourcing and split awards to obtain competitive pressures on contractors is not always in the best interests of the Government?

Answer: The audit that is referenced is a draft report that the Department and Services are now responding to before it is released as a final report. There are several aspects of the draft report that we do not support. We believe the limited review of procurements after the Competition in Contracting Act (CICA) of 1984 (the audit included split award contracts starting in 1975) does not clearly demonstrate that dual sourcing does not usually result in adequate price competition. Prior to CICA the only criterion for dual sourcing was the need for a mobilization base. CICA provided the legal basis for developing two sources for cost savings. Hence, programs looked at before 1984 may or may not demonstrate cost savings.

It is not uncommon for a dual sourced program to require several years before a break-even point is realized. Our experience is very limited with dual sourced programs that have completed the production phase using the dual source approach. Therefore, it is too early to determine the overall effect of dual sourced competition. Perhaps this is why the report has focused the review on individual annual competition actions and does not answer how effective competition has been in the production phase and whether it has led to lower unit costs compared to sole-source acquisitions

Question: In your opinion, how should the Department continue to encourage competition and at the same time ensure the best value to the government throughout the life of a program?

Answer: With the advent of the law contained in chapter 144, Section 2438, "Major programs: competitive alternative sources", 10 USC, a more formalized procedure is evolving for a dual source decision in either the Full-Scale Development (FSD) or Production phase. Our recent revision of DoDI 5000.2 contains new guidance on the law and effectively brings the discussion on the dual sourcing decision into the Defense Acquisition Board (DAB) process. In addition, we have recently provided further guidance that should facilitate the DAB consideration of the economic and mobilization base issues prior to making a dual source decision. These actions will result in our continued encouragement of dual source competition when it makes sense and at the same time provide a more rigorous review process.

Proposed Legislation

Question. Dr. Costello, a bill recently introduced on the floor of the Senate proposes that evaluations of professional and technical services contract proposals be computed on the basis of a 40-hour work week. The purpose of this is to ensure there is a standard basis for evaluating such proposals. Do you have a comment on this proposed legislation?

Answer: The proposed legislation would significantly increase contractor and Government administrative effort and costs (e.g., it would require additional contract audit and pricing reviews) since two contract cost proposals would be required. Such a requirement to submit cost proposals, as well as necessary supporting cost or pricing data, may also affect our ability to award contracts on the basis of adequate price competition. Evaluation on a 40-hour work week basis could also result in other than the low bidder being awarded the contract. Accordingly, we believe that the proposed legislation is not warranted.

Stock Fund Inventories/Procurements

The 1988 Senate Appropriations Report noted that Defense Stock Fund inventories increased by 92 percent in constant dollars since 1982, but that almost one-half of this inventory is defined as inapplicable.

Question: Secretary Costello, why did inapplicable inventories grow so rapidly?

Answer: The term "inapplicable inventories" is a misleading term. It connotes that DoD has procured inventories for which it has no use. In fact, these inventories are inapplicable only to the budget year for which they were originally bought, and the vast majority of inapplicable stocks are eventually consumed. Only 5 per cent of all the secondary item stocks on-hand today are potentially excess to DoD's needs, and that percentage was the same in 1982.

Question: What solutions do you suggest to ensure stock funds procure inventory that is required?

Answer: The DoD needs to improve requirements computation methods to improve readiness and reduce unnecessary inventory investment. We have isolated the logistics areas where high growth is occurring. These include procurement lead times, non-demand-based stockage requirements, economic order quantities, repair cycle times, increases in stockage at retail levels of supply and budgeting practices. We have programs underway in each of these areas to effect fixes or to minimize unneeded inventory growth.

Question: How much of the problem is attributable to increasing minimum procurement cycles?

Answer: The policy of procuring minimum 12 month economic order quantities has contributed to inventory growth, but this growth contributed to substantial savings through quantity price breaks and reductions in ordering costs, as well as improved readiness. The DoD Inspector General (DoDIG) estimated that the policy increased the DoD's inventory investment by $855 million but also found that it contributed only minimally to the risk of excess stocks. Additionally, the DoDIG estimated that the Components saved $69 million through this policy. We are presently reviewing this policy to improve its application based on the Inspector General's recommendations and an analysis that will soon be completed.

Question: What are the estimated costs to inventories (by service) in 1988?

Answer: A breakdown of the $855 million estimated increase in inventory investment resulting from the 12 month minimum economic order quantity is as follows: Army $155 million, Navy $214 million, Air Force $214 million, and the Defense Logistics Agency $272 million.

Question: Why should the Defense Stock Fund be used to procure non-demand based items for the services? Why couldn't these items be requested and approved instead through the service procurement accounts?

Answer: With the exception of the Navy's depot level reparables, items procured by the Defense Stock Fund are generally low cost, consumable items. The stock fund operates similar to the concept used by private sector businesses. Sales of existing stocks are used to finance additional procurements, and, consequently, the incentives to achieve management economies and efficiencies are similar to businesses. The stock funding of Navy depot level reparables was initiated to determine whether this concept would provide similar benefits for depot level reparables.

Changing the source of financing of non-demand based consumables from the stock fund to a procurement appropriation would provide no advantages and many disadvantages. If the perceived goal of this change is to increase congressional oversight, it would achieve the opposite effect. Currently, the principal source of financing for non-demand based items is inventory augmentation appropriations, for which Congress already has direct oversight. In contrast to the low cost of non-demand based consumable items, items financed by procurement accounts are typically high cost investment items. Oversight of non-demand based consumables would be less if financed through a procurement appropriation since cost is the principal determinant of which requirements are or, rightfully, should be reviewed. The principal disadvantages of changing financing for non-demand based items would be less efficient management and the cost to implement the change. The cost to change would be incurred not only initially for all non-demand based items, but also afterward whenever a previously non-demand based item becomes demand based or vice versa.

Question: Please provide estimates for property reutilization sales for 1985, 1986, 1987, 1988, and 1989. Can the Defense Logistics Agency increase property reutilization sales?

Answer: The value of property reutilized within the Department of Defense is as follows: 1985 = $897M; 1986 = $948M; 1987 = $1.206M. The projected value of reutilization for 1988 is $1.607. No projections are available at this time for 1989. The Defense Logistics Agency has generally produced an annual upward trend in reutilization through the employment of automation and person-to-person contacts with the Military Services and Defense Agencies.

Defense Stock Fund Petroleum Costs

Question: Please provide the Department's fuel procurement estimates for 1988 and 1989 price per barrel and refining and delivery charges. What is the average composite price in 1988 and the most recent price paid?

Answer: The composite fuel price used for the FY 1988 and 1989 budgets is $26.46 per barrel. This includes all associated costs. The actual cost so far this fiscal year is $25.47 per barrel through March 1988. The original FY 1988 budgeted price was $23.94 per barrel, based on FY 1987 actual costs. This price was revised upward to $26.46 because of rising fuel costs experienced toward the end of FY 1987. The price increase has created a $451.3 million deficit, primarily in the Services' Operations and Maintenance accounts. To the extent that cash is generated by the higher composite fuel price, it will be refunded to the Services' accounts to offset the deficit.

APACHE AIRCRAFT

Question: It appears that 72 Apaches cannot be procured at a rate of six per month for the same unit price as those procured at a rate of ten per month. Is the budget request for these aircraft in FY89 a realistic figure or will additional funds be required to avoid again producing fewer aircraft than requested and authorized?

Answer: The $809.1 million request for 72 APACHE's contained in the FY89 Amended Budget Submission is based upon the assumption that the Army can negotiate the same production unit cost for the reduced production rate of six per month as that previously negotiated for a rate of ten per month. The Army accepts this challenge and will conduct detailed negotiations, including using the "Could Cost" methodology, with the intent to procure 72 APACHEs for the available budget.

Using classical cost estimating techniques, a change of the production rate to six aircraft per month yields an estimate of $909.5 million for the 72 aircraft.

Questions Submitted by Senator Byrd

PROGRAM CANCELLATIONS

Question: Stretching out the process of acquiring new weapons not only adds to program costs but also limits efforts to equip U.S. forces with modern weapons. According to reports last year by the Congressional Budget Office (CBO), the Defense Budget Project, and others, this tendency to stretch out procurement has persisted for many years despite widespread criticism of the practice from both within and outside the Department of Defense. Last year a CBO report on "stretchouts" noted that "when defense budgets are limited, the services too often choose to underfund all of their programs rather than making the difficult decision to cancel or defer some of them." Recognizing the seriousness of this problem, Secretary of Defense Frank Carlucci has told senior executives that he expects them to cancel some programs rather than continuing to prolong production at inefficient levels. What hard evidence can you provide to substantiate the Department of Defense's commitment to this policy? Can you cite specific examples during the past year of weapons systems programs being cancelled or deferred?

Answer: Secretary Carlucci has testified to Congress that he is determined to avoid a return to the "hollow" forces of the 1970s. The FY89 Amended Budget Submission is evidence of this determination. In that submission, 18 weapon systems were terminated (including 11 terminated for affordability reasons), 10 programs were deferred, and 8 new starts were delayed. The terminated systems are: AQUILLA RPV, Anti-Tactical Missile, EH-60 helicopter, M198 howitzer for the reserves, 120mm mortar, Copperhead, A-6F, Naval Airship, Anti-Radiation Seeker, High Frequency Anti-Jam radio, 5 inch SAL GP, Skipper, ASAT, Small ICBM, Minuteman III Penetration Aides, C-27, AGM-130, and WWABNCP system replacement. The deferred systems are: Forward Area Air Defense C^{2}I, Advance Anti-Armor Weapon - Heavy, Armored Family of Vehicles, LHX helicopter, Army Data Distribution System, Advanced Air-to-Air Missile, MK 48 ADCAP torpedo, MK 50 torpedo, Vertical Launch ASROC, and the Defense Meteorological Satellite. The delayed new starts are: Non-Line of Sight Missile, Light Assault Bridge/Launcher, Low Cost Sonobuoy, Passive Signal Monitoring system, ASW variant of V-22, new warhead for the MK 50 torpedo, B-1B enhancements, and sensor Fuzed Weapon.

CURTAILING INEFFICIENT PRODUCTION RATES

Question: Since previous directives aimed at curtailing the problem of inefficient production rates seem to have had little success, what is there about the current policy and program to make us believe that the results will be different this time?

Answer: Maintenance of economic production rates is one of the 32 initiatives instituted by Mr. Carlucci when he was Deputy Secretary of Defense. As Secretary, Mr. Carlucci has reiterated his determination to maintain economic rates where they make sense and has demonstrated his determination with the FY89 Amended Budget Submission in which 30 of 34 major defense acquisition programs are at or above economic production rates.

INSTITUTIONAL CHANGE

Question: The reform of a defective policy or program often can be achieved only by instituting institutional/structural changes. In the recent past, for example, the Secretary of Defense has concentrated authority for reform initiatives in the hands of a specific individual within the Department, such as the acquisition "czar" and competition "advocates". What institutional/structural changes, if any, have been instituted, thus far, to insure the successful implementation of policy regarding efficient production rates? It would be helpful to have information concerning not only the Office of the Secretary of Defense but, also, for each of the military departments?

Answer: The major institutional change taken by the Department, in cooperation with the Congress, is the creation of an Under Secretary of Defense for Acquisition who serves as the Defense Acquisition Executive. As Defense Acquisition Executive, the Under Secretary is charged with cognizance over and advocacy of the whole range of acquisition initiatives including production rates. This Acquisition Executive function is duplicated in each of the Military Departments. No other institutional or structural change is needed at this time.

PRODUCTION RATE DEFINITIONS

Question: The Army has been more successful than the other services, apparently, in achieving minimum economic production rates in its weapons programs. Such a comparison, it has been noted, might be misleading, since the services have not always been consistent in their definition of and method of calculating the "minimum economic rate." Does this lack of a uniform definition continue to exist? And, if so, doesn't it create a situation where statistics on economic rates of production might be subject to manipulation from program to program and from year to year?

Answer: The definition of various production rates is well fixed and recognized by both the Department and outside agencies such as the Congressional Budget Office. However, just as the CBO reported in their study of production rates in November 1987, the calculation of the various rates is a matter of judgment because it is based on a number of variables. Also, the concept of economic rates applies to a whole range of production quantities rather than to a particular point. The key to producing at an economic rate is to produce at a stable rate as close to the rate planned as possible. It is the variation from plan and the fluctuations in quantities produced which creates uneconomical production.

QUESTIONS SUBMITTED BY SENATOR D'AMATO

A-6 AIRCRAFT

Question: We are unlikely to see the Advanced Tactical Aircraft deployed on carrier decks for some years to come. This makes production of the A-6 intruder vital to our ability to meet the Soviet threat. What plans do you have to maintain the production base for this aircraft? What about in the post-FY89 out-year numbers?

Answer: In view of the fiscal constraints on all Navy aircraft procurement funding, we plan to procure some A-6E System Weapons Integration Program aircraft, with the funds appropriated in FY88, to be delivered over a two year period in order to keep the production line operating at the minimum sustaining level in case we need to mobilize and to fill inventory shortfalls.

WEAPON SYSTEM REQUIREMENTS

Question: While efforts taken to reduce unit cost through multi-year procurements and quantity discounts seem to be prudent, what is being done to anticipate systematic requirements to make sure that we are purchasing the right items? Requirements do change over time.

Answer: Making sure we are buying the right equipment to meet the changing threat is a primary concern of both the Joint Chiefs of Staff and of the Services. Each Service has an institutionalized process for determining requirements and relating those requirements to the acquisition process. The Joint Chiefs and their staff examine requirements through the Joint Requirements Oversight Council (JROC). The JROC is charged with looking at requirements across the Services and from a CINC perspective. The Defense Acquisition Board (DAB), which reviews all major defense acquisition programs as they progress through the life-cycle milestones, is also concerned with procuring the right equipment. Therefore, the DAB is vice-chaired by the Vice Chairman of the Joint Chiefs of Staff who can bring a requirements viewpoint to DAB deliberations.

F-14 AIRCRAFT

Question: How will procurement plans for the F-14 be affected by the current budget? What is scheduled for the out years?

Answer: The current budget provides for procurement in FY89 of 12 new F-14D aircraft. This number is unchanged from the previous five year aircraft procurement plan. Production of new aircraft will be held at a sustaining level of 12, which closely matches our attrition requirements. In order to more rapidly upgrade our fighter forces, new production will be supplemented by remanufacture of older F-14A aircraft. New and remanufactured F-14D aircraft have identical performance and weapons system capabilities, but a remanufactured F-14D costs about one-half what a new one costs. Our ability to modernize the fighter force depends on future budget environments.

ADVANCED TECHNOLOGY BOMBER COULD COST

Question: It is refreshing to see new approaches being taken to increase contractor-DOD cooperation. When will we be able to have results of the "Could Cost" initiative implemented by the Air Force on the Advanced Technology Bomber?

Answer: The Air Force is currently working on the plan to implement Could Cost on the Advanced Technology Bomber and expects to have a final implementation plan by early October. Many of the activities to be included in the implementation plan are already underway.

SUBCOMMITTEE RECESS

Chairman STENNIS. All right. With the thanks of the committee, we will recess now subject to the call of the Chair.

[Whereupon, at 11:15 a.m., Tuesday, April 19, the subcommittee was recessed, to reconvene at the call of the Chair.]

LIST OF WITNESSES AND PREPARED STATEMENTS

Page

Abrahamson, Lt. Gen. James, Director, Strategic Defense Initiative Organization 243
  Prepared statement 252
Aldridge, Hon. Edward C., Jr., Secretary of the Air Force 125
  Prepared statement 131

D'Amato, Hon. Alfonse, U.S. Senator from New York, prepared statements 16, 127, 333
Dugan, Lt. Gen. Michael J., Deputy Chief of Staff, Plans and Operations, Force Development and Integration 26, 74
  Biographical Sketch 81
  Prepared statement 76

Mundy, Maj. Gen. C. E., Jr., Deputy Chief of Staff for Plans, Policies and Operation, Force Development and Integration 26, 56
  Prepared statement 59
Mustin, Vice Adm. H. C., Deputy Chief of Naval Operations for Plans, Policy and Operation, Force Development and Integration 26, 63
  Prepared statement 65

Shoffner, Maj. Gen. Wilson A., Assistant Deputy Chief of Staff for Operations and Plans, Force Development and Integration 26
  Biographical sketch 55
  Prepared statement 29

Taft, Hon. William H., IV, Deputy Secretary of Defense 1
  Prepared statement 7

Welch, Gen. Larry D., Chief of Staff, U.S. Air Force 125, 141
  Prepared statement 131

SUBJECT INDEX

FORCE STRUCTURE

Page

A-10 aircraft---------- 82
Aegis technology, transfer to Japan of---------- 12
Aircraft carrier airwings---------- 83
Air Force, equipment improvements----------5, 74
Air Guard, force structure changes at expense of---------- 16
Army, improvements in---------- 3
Basic warrior testing---------- 57
Burdensharing----------15, 19
C-17 aircraft---------- 85
Changes in---------- 2
Defense budget---------- 24
End-strength decreases----------22, 28, 89
F-16 aircraft---------- 82
Korea, deployment of U.S. troops in---------- 14
Line item funds---------- 84
Manning---------- 28
Military capability, four pillars of---------- 2
Modernization---------- 26
National Guard flying hours---------- 18
NATO commitment---------- 83
Navy frigates, decommissioning of---------- 13
Navy, increased force in----------4, 63
Pay issue---------- 12
Procurement---------- 90
Readiness---------- 56
Smart munitions---------- 91
Trim proposal---------- 20
U.S.S. Midway, capability of----------13, 63, 82, 84, 88

OVERVIEW OF AIR FORCE BUDGET

A-10 replacement---------- 160
A-10S, withdrawalfrom Europe of---------- 163
A-16 aircraft---------- 161
Air Guard aircraft assignments----------144, 148
Airlift capability----------143, 146
Alaska search and rescue unit---------- 149
ATB classification guide---------- 166
B-1B status---------- 168
B-52 bomber aircraft---------- 151
Base rights payments---------- 165

Overview of Air Force Budget—Cont.

Page
Base rights payments--- 165
Budget requirement--- 126
Civilian employee furlough---152, 154
F-16 relocations--- 161
Fighter forces--- 145
Five-year program reductions--- 143
Force readiness--- 142
Force structure reductions---128, 144
Land-based ICBM--- 141
MX rail garrison funding--- 158
Operation and maintenance reduction--- 153
Over-the-horizon radars--- 151
Overseas dependents--- 155
Pay increases--- 129
People programs---128, 141
Pilot retention---127, 129, 145, 146
Programming and budgeting--- 130
Readiness accounts--- 160
Small ICBM funding--- 157
Spain, negotiations with--- 164
SR-71 blackbird--- 156
Stealth bomber--- 165
Strategic triad, bomber leg of--- 142
Sustainability stocks--- 159
T-37 SLEP program--- 156
Tactical forces--- 142
Theater nuclear forces--- 142
Variable housing allowance--- 129

PRODUCTION RATES

Aegis program--- 320
AV-8B program--- 327
Budget reductions--- 314
Cost-saving measures--- 332
DDG-51 program--- 319
Discount air fares--- 323
Economic production rates--- 315
Environmental cleanup--- 328
F-15 acquisition rates--- 327
F-16 acquisition rates--- 327
LHX program--- 329
M-1 tank--- 330
Multiyear procurement---316, 319, 331
Osprey program--- 326
Redundant systems, consolidation of--- 321
SDI program--- 322
Shipbuilding reductions---321, 325
V-22 aircraft--- 328

STRATEGIC DEFENSE INITIATIVE

Page

ABM treaty, Soviet pill-out of--- 283
Accidental launch protection system---249, 263
Advance launch system readiness--- 273
Ballistic missiles, history of--- 246
Bambi-type system testing--- 276
Cost effectiveness--- 267
Defense Acquisition Board review--- 248
Deployment---269, 272, 281
Foreign country threats--- 265
House cuts, implications of--- 270
Joint U.S./Soviet use--- 286
Kinetic energy research--- 285
Layered defense--- 281
Long-term issue--- 249
MX missile costs--- 266
Nitze test--- 265
President's goal for--- 248
Program elements--- 250
Program goals---247, 278
Research programs--- 247
SALT talks bargaining chip---272, 279
START treaty--- 271
Testing programs--- 275

SUBMITTED QUESTIONS

Byrd, Hon. Robert C., U.S. Senator from West Virginia, questions submitted by---115, 214, 303, 347
D'Amato, Hon Alfonse, U.S. Senator from New York, questions submitted by---122, 233, 350
DeConcini, Hon. Dennis, U.S. Senator from Arizona, questions submitted by--- 222
Hollings, Hon. Ernest F., U.S. Senator from South Carolina, questions submitted by--- 213
Johnston, Hon. J. Bennett, U.S. Senator from Louisiana, questions submitted by---95, 305
McClure, Hon. James, U.S. Senator from Idaho, questions submitted by--- 304
Stennis, Hon. John C., U.S. Senator from Mississippi, questions submitted by---170, 290, 336
Stevens, Hon. Ted, U.S. Senator from Alaska, questions submitted by--- 226